



1/10th SCALE 4x4 SHORT COURSE ELECTRIC TRUCK

HLNA0053

## OWNER'S MANUAL AND EXPLODED VIEWS

LENGTH	540mm (21.26in)
WIDTH	290mm (11.42in)
HEIGHT	215mm (8.46in)
WHEELBASE	327mm (12.87in)
WHEEL DIAMETER	76mm (2.99in) x 55.5mm (2.18in)
TIRE DIAMETER	F/R: 112mm (4.41in) x 47mm (1.85in)
WHEEL OFFSET	12mm Hex, 26mm Offset, works with 24mm (TRX)
WEIGHT*	2545g (5.61lb)
BATTERY	1,800mAh NiMH 7-CELL, 8.4V
MOTOR	BRUSHED 550 SIZE 21T
RADIO	HRS-3 2.4GHz 3-CHANNEL
CHARGER	AC WALL TRICKLE

\*APPROXIMATE OUT-OF-THE-BOX WEIGHT



Entire contents ©2011 Helion RC

Before using your product, review all documentation and inspect the products carefully. If for some reason you decide it is not what you wanted, then do not continue with unpacking, setup or operation of your product. Your local HobbyTown USA® dealer cannot accept a product for return or exchange after partaking in the afore mentioned actions

Read, understand and follow all instructions and accompanying material carefully before operating or assembling your vehicle to prevent serious damage to your vehicle. Failure to complete these tasks properly or intentional aversion to the content will be considered abuse and/or neglect

Product specifications are subject to change without notice. Due to ongoing development, the actual product may vary from images shown

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm

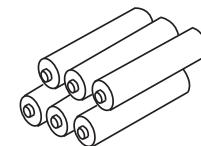
This product is not a toy! (14+) Recommended for ages 14 and up. Adult supervision required for ages under 18 years old. Contains small parts, keep out of reach of children 3 years of age and younger

# **PACKAGE CONTENTS...**

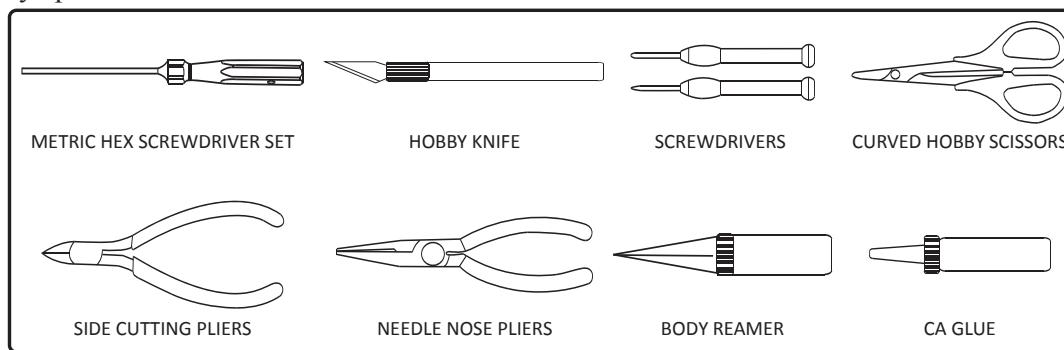
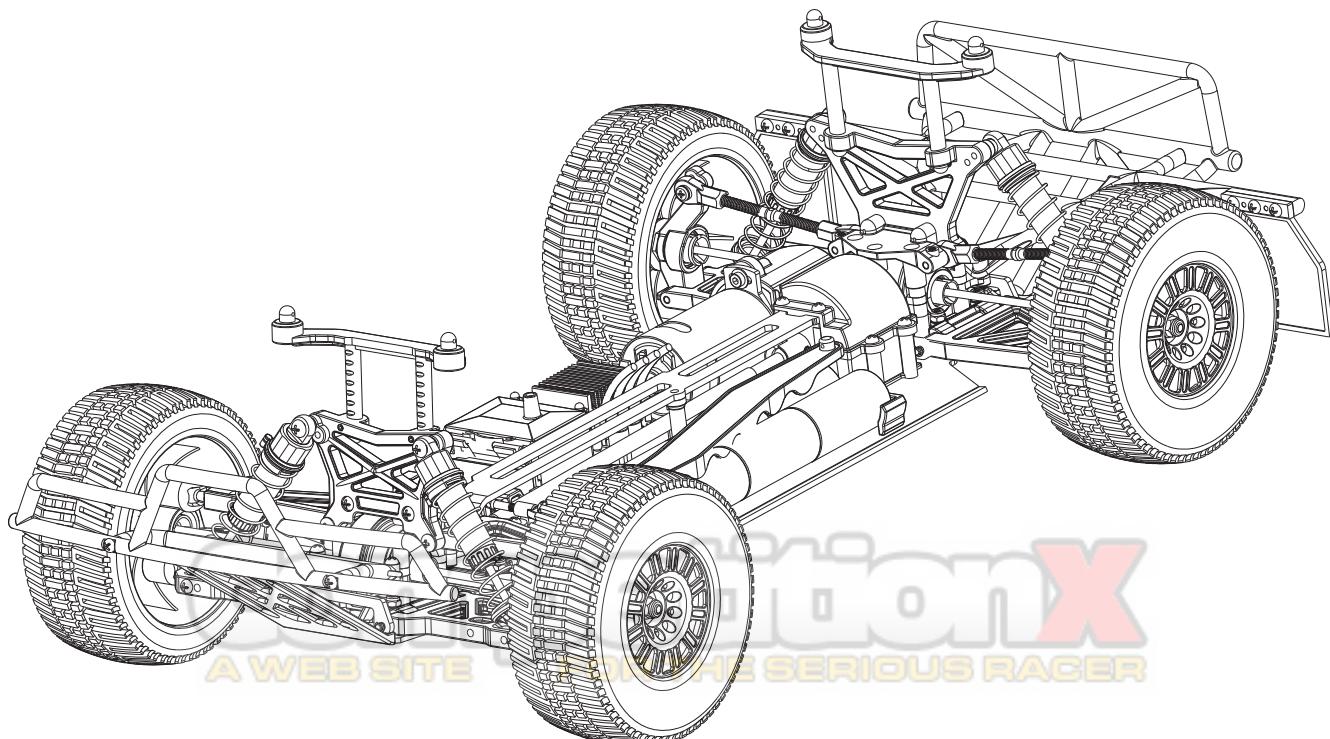
1. [1] Dominus 10SC
2. [1] 1,800mAh 7-Cell NiMH battery pack
3. [1] HRS-3 2.4GHz 3-Channel transmitter
4. [1] 7-Cell Wall charger
5. [1] 4-Way cross wrench
6. [1] 1.5mm L-wrench
7. [1] 2.5mm L-wrench
8. [1] Bag extra parts
9. [1] Documentation package with exploded view
10. [1] Genuine Helion product warranty card

# **ITEMS NEEDED TO COMPLETE...**

1. [6] 1.5V AA type alkaline batteries for transmitter
  - a. To help the environment, consider replacing the disposable batteries for this transmitter and for other household electronic items with rechargeable batteries. Visit a HobbyTown USA® for hobby grade chargers and batteries
  - b. Patience while reading thoroughly through all of the instructions and guides that will help ensure you get the most out of your new Helion RC product

# **RECOMMENDED TOOLS (NOT INCLUDED)...**

Please use caution and follow the manufacturer's recommended operating instructions for these items and always wear eye protection

# **INTRODUCING THE DOMINUS 10SC...**



## FEATURES OF THE DOMINUS 10SC... #

- Steel ring and pinion type four wheel drive drivetrain
- Waterproof ESC and Servo
- Water Resistant receiver box
- HRS-3 2.4 GHz 3-Channel radio system
- 1,800 mAh 8.4V 7 Cell NiMH rechargeable battery pack with Tamiya-style plug
- Four wheel independent suspension
- Planetary metal gear differentials
- Ball bearing supported drivetrain
- Adjustable, oil filled, coil-over shock absorbers with bladders
- Adjustable suspension, camber, and front toe
- Pivot ball style front suspension with upper arm
- Stamped aluminum hinge pin braces
- Dual bell crank steering with servo saver
- Aluminum center drive shaft
- Dual position battery strap, 6-7 cell configuration
- Hex drive wheels, 26mm offset, compatible with 24mm (TRX)
- All-terrain square lug tires and stepped wheels
- Authentic short course style body with spoiler
- Adjustable body mounts
- 550 21T brushed motor with 14T 32P pinion gear

## GETTING STARTED... #

1. Remove body and battery from vehicle to prepare for charging
  - a. Read charging instructions and understand all warnings and cautions before proceeding. ***This product is not a toy and should not be charged, operated, or maintained without supervision of an adult***
  - b. Now is a good time to start charging so you can be up and running as soon as possible but remember to return to this guide in the presence of the charging battery, remembering never to leave the battery unattended while charging
2. Install the [6] AA type alkaline batteries into the transmitter
3. Install the fully charged battery into the vehicle, be sure to install the pins into the holes in the battery mounting posts
4. Ensure the motor is plugged into the receiver
5. Ensure the switch is in the OFF position and connect the battery to the ESC
6. Read and understand transmitter cautions and setting instructions before use
  - a. Confirm settings for steering and throttle trim
7. Install body with 4 supplied clips; turn your equipment ON (radio first!) and enjoy!

## CHARGING THE BATTERY... #

Never leave the battery unattended while charging and never operate the charger without adult supervision

Never charge a warm battery, always allow the battery to cool to room temperature before charging

Never drop the charger or battery and do not attempt to charge a damaged battery

Inspect the battery and charger before use. Never use a battery or charger if the wire or connector has been damaged or if the battery has experienced a short

Incorrect use of the battery, connections, or charging equipment can cause personal injury or property damage

Never allow batteries or charger to come in contact with moisture at any time

Stop charging immediately if the battery or charger becomes hot or changes form during use

**NOTE: Only use chargers designed for use with NiMH batteries for the RC industry, using the supplied connector. Use of other (non-RC specific) chargers or connectors can permanently damage the battery and/or connected equipment. Genuine NiMH replacement batteries are available at your local HobbyTown USA®.**

1. Plug the charger into a properly grounded standard US wall plug
2. Plug the battery into the charger and place the battery on/in a non-flammable surface/container and away from any flammable objects
3. A fully discharged battery should charge in approximately 4-5 hours
  - a. **Caution: Periodically monitor the temperature of the battery while charging, if the temperature exceeds 115°F (45°C), disconnect the battery from the charger and allow it to cool before reconnecting**
4. Unplug the battery from the charger when the battery is slightly warm to the touch, indicating the battery had been fully charged
  - a. **NOTE: Using a peak detection charger is recommended and will provide you with a faster and better charging experience. We recommend the Primal Multi-Chemistry charger by Radient RC.**
  - b. **Warning: Never charge the included battery at a charge current exceeding 2.5A**
5. Remove charger from wall plug



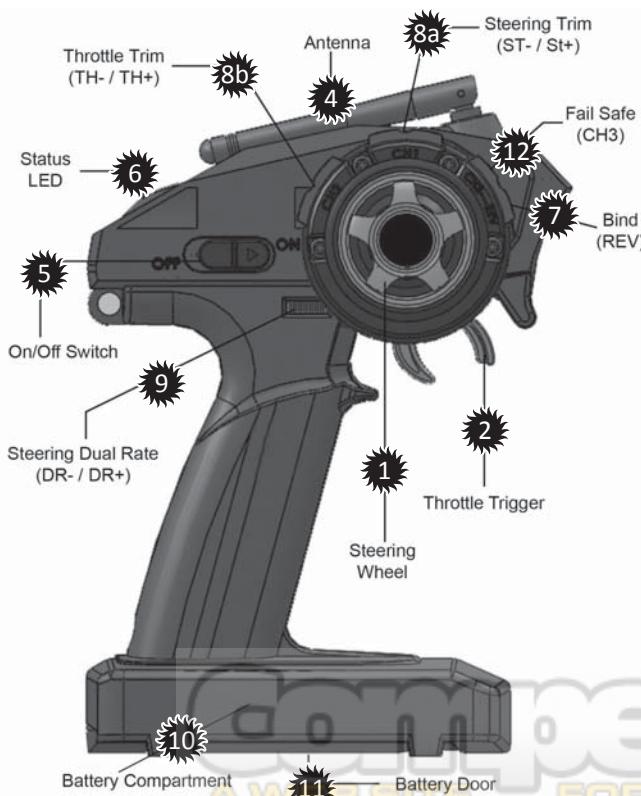
## # PRECAUTIONS WHEN USING THE HRS-3 RADIO SYSTEM...

- Your model can cause serious damage or injury so please use caution and courtesy when operating your model
- Do not expose the radio system to water or excessive moisture
- As a safety precaution, perform all transmitter and receiver adjustments with the vehicle's wheels off the ground
- This ensures the complete control over the vehicle at all times during adjustments
- Ensure your batteries (both transmitter and vehicle) have been properly charged for use with your model
- Keep track of the time the system is in use so you will know how long you can safely operate the transmitter
- Check all servos and electrical connections prior to each run
- Do not operate your model near traffic, bystanders, parking areas, or any other area that could result in injury to people or damage to property
- If at any time during the operation of your model you observe any erratic or abnormal behavior of your model, immediately stop operation and bring the mode to a safe stop in a safe location to diagnose the problem
- Always power on your transmitter before turning your vehicle on
- If you have little or no experience operating R/C models, we strongly recommend you seek the assistance of your local HobbyTown USA®

R/C models are an extremely fun hobby, but safety should never be ignored or taken lightly. Always take caution when operating your model as damage to property and injury can result from careless operation. Please consult your local HobbyTown USA® with any questions or troubleshooting issues. And of course don't forget to have fun, you deserve it after reading through all of these safety tips!

## # INTRODUCING THE HRS-3 2.4GHz Radio System...

Please read and understand the following instructions for your new radio system prior to operation to ensure the safest and most enjoyable experience.

**Features:**

1. Steering wheel: controls left/right motion (designed to be operated with right hand)
2. Throttle trigger: controls forward/reverse motion (designed to be operated with left index finger)
3. Handle: For holding the transmitter (designed to be held with left hand)
4. Antenna: Transmits signal to the receiver located in the vehicle
5. ON/OFF Switch: Turns the power ON/OFF for the transmitter only
6. Multifunction red Indicator LED:
  - a. Binding mode active
  - b. Low battery voltage warning, batteries should be replaced/recharged before continued use
7. Bind/REV:
  - a. Use to reverse servo operation
  - b. Use for binding with up to 6 different vehicles
8. Digital Trim: All switches are digital so there is no need to readjust trim position for different models after initial setup
  - a. Steering: Controls the "hands-off" left/right direction of the vehicle
  - b. Throttle: Adjusts the motor speed to STOP when trigger is in "hands-off" (neutral) position
9. Dual Rate Adjustment Switch: Adjusts total travel of servo
10. Battery compartment: houses [6] AA batteries for powering the transmitter
11. Battery door: Closes the battery compartment, containing the AA batteries
12. Fail Safe setting and Channel 3 toggle



## HRS-3 BINDING AND FAIL SAFE SETTING...

#

**Automatic 6 Model Memory:**

This radio system can be bound to 6 various receivers at one time. The HRS-3 radio system automatically stores the data information (all End Point Adjustments, Steering and Throttle Trim, and fail-safe settings) for each receiver allowing up to 6 vehicles to be used with one radio, however not at the same time. Additional receivers for your system can be purchased from your local HobbyTown USA®.

**Binding the Transmitter and the Receiver:**

The process of allowing communication to occur between a 2.4GHz transmitter and receiver is called "binding" (sometimes referred to as "matching" or "pairing"). The radio system included with your product comes pre-configured and bound from the factory. In the event your system loses binding, one of the components has been replaced, or you choose to add an additional vehicle to your transmitter, you will need to re-bind the transmitter and receiver. Follow the below steps for re-binding your radio system. Always ensure both transmitter and receiver batteries are fully charged or new when performing this process for best results.

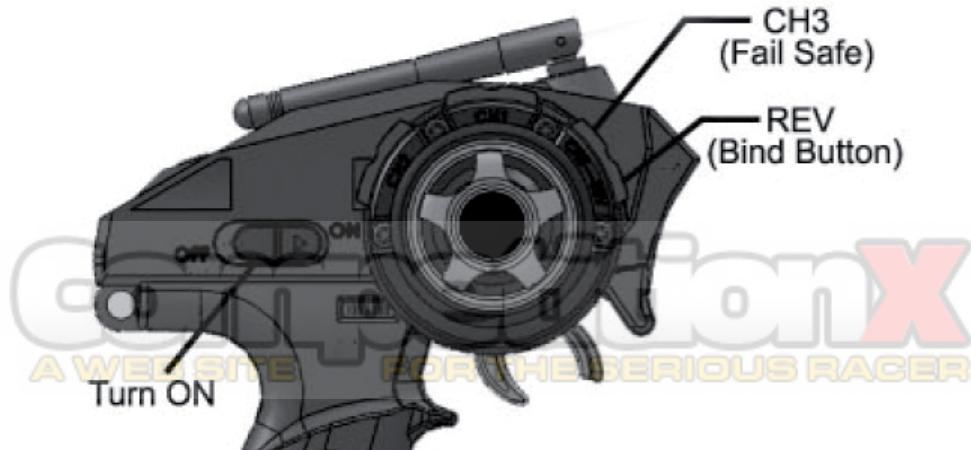
**NOTE: AS A SAFETY PRECAUTION, PERFORM THE BINDING PROCESS WITH THE VEHICLE'S WHEELS OFF THE GROUND.**

1. With the transmitter in close proximity but not closer than 1ft to the receiver, press and hold the "BIND" button on the receiver while turning on the power to the receiver. The LED on the receiver will blink, indicating that the receiver is searching for a transmitter to bind with
2. Push and hold the REV button on the transmitter while moving the Power switch to the ON position. The transmitter will automatically search and bind to the receiver. This may take up to 10 seconds
3. Once the transmitter and receiver are bound together, the receiver's LED will turn solid red. If the receiver's LED does not turn solid red, turn off both the transmitter and receiver and repeat Steps 1-2
4. Ensure normal operation of throttle and steering
5. If you experience anything other than normal operation, repeat the process

**2.4 GHz Fail-Safe Adjustment:**

**NOTE: AS A SAFETY PRECAUTION, PERFORM THE FAIL-SAFE ADJUSTMENTS WITH THE VEHICLE'S WHEELS OFF THE GROUND.**

1. With the transmitter and receiver ON, push and hold the Fail-Safe (CH3) button for 5 seconds to enter the Fail-Safe programming mode
2. Move the throttle trigger to the desired position and press the Fail-Safe button to program the throttle Fail-Safe setting. Perform this step again using the Steering Wheel to set the steering Fail-Safe setting. Once the positions are programmed, the Status LED will blink on the receiver
  - a. It is recommended and common to set the throttle Fail-Safe as Full Brake, i.e. the throttle trigger is pressed completely forward applying full brakes. This ensures that if the receiver cannot receive a signal from the transmitter, the servos or ESC will default to full brake causing the vehicle to stop
3. To test the Fail-Safe settings, turn the transmitter off while the receiver is on. The servo will default to its programmed positions and the motor should not spin (assuming you have set the fail





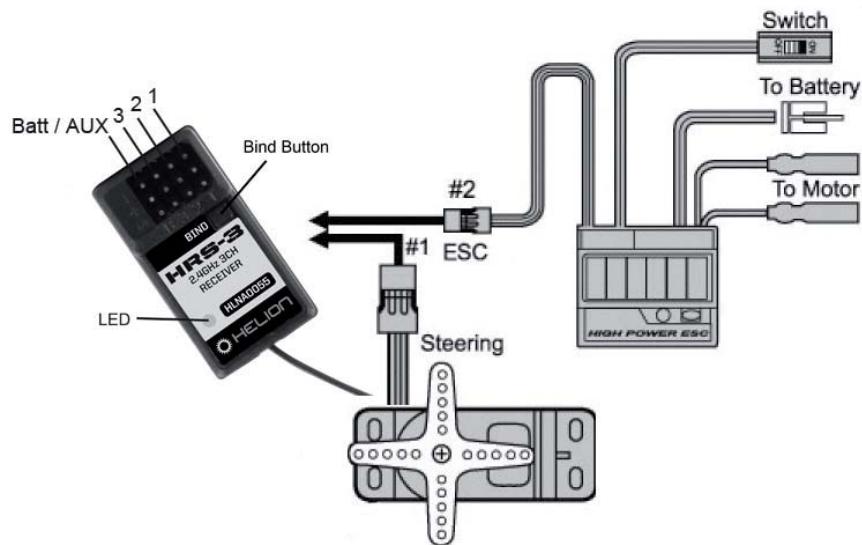
## # HRS-3 CONNECTION AND CONFIGURATION...

Receiver, ESC and Servo Connections:

1. Channel 1: Steering Servo
2. Channel 2: ESC (Throttle/Brake)

Digital Trim Settings:

- Steering Trim
  - › Press the “ST+” or “ST-“ button to adjust the neutral position of the steering. A long “beep” will sound
  - › Once the trim setting reaches the limit, a long steady “beep” will sound
    - » Depending on your servo configuration, “ST+” or “ST-“ will move the servo either left or right. Use either “ST+” or ST-“ to ensure the vehicle can track straight with no steering input
- Throttle Trim
  - › Press the “TH+” or “TH-“ button to adjust the neutral position of the throttle. A long beep will sound
  - › Once the value reaches the limit, a long steady “beep” will sound
    - » The throttle should be trimmed so the vehicle is stationary when no throttle input is applied

Transmitter Model Backup:

The data for every function and model programmed to the transmitter is stored in a memory chip that does not require battery backup. The transmitter model data is automatically backed up, and is not lost during battery replacement.

Servo Reverse (REV):

The Servo Reverse function reverses the direction of operation of the servos relative to the transmitter steering and throttle inputs. This function would be used if, for example, turning the transmitter steering wheel right resulted in the model turning left and vice versa.

**NOTE: AS A SAFETY PRECAUTION, PERFORM THE SERVO REVERSE ADJUSTMENTS WITH THE MOTOR UNPLUGGED FROM THE ESC (CAUTION: DO NOT ALLOW THEM TO TOUCH AFTER BEING DISCONNECTED WHILE PERFORMING THIS SETUP PROCEDURE) AND THE WHEELS OFF THE GROUND.**

- Steering Reverse:
  - › Turn the steering wheel completely to the left (or right) and press the “REV” button for at least 2 seconds to reverse the Steering (ST) channel.
  - › The transmitter will beep once for confirmation.
- Throttle Reverse:
  - › Pull the throttle trigger completely to full throttle (or full brake) and press the “REV” button for at least 2 seconds to reverse the Throttle (TH) channel.
  - › The transmitter will beep once for confirmation.

Steering Dual-Rate (ST D/R):

Steering dual-rate allows on-the-fly end point adjustments to both sides (left and right) of the steering servo.

- The default value is 100% of the maximum servo travel. The dual-rate can be set from 20% to 100%.
  - › To increase the dual-rate, press the “DR+“ button.
  - › To decrease the dual-rate, press the “DR-“ button.

End Point Adjustment:

- Steering End Point Adjustment (EPA)
  - › Use this function to adjust the left and/or right steering angle relative to the steering wheel position
  - › **CAUTION: BE CAREFUL TO NOT OVER-EXTEND THE STEERING THROW AS IT CAN CAUSE YOUR SERVO TO OVER-**

**WORK AND OVER-HEAT.**

- › Steering-Left Side Adjustment:
  - » Turn the steering wheel completely to the left and use the "ST+" or "ST-" buttons to adjust the steering angle to the desired location.
- › Steering-Right Side Adjustment:
  - » Turn the steering wheel completely to the right and use the "ST+" or "ST-" buttons to adjust the steering angle to the desired location.
- Throttle and Brake End Point Adjustment (EPA)
  - › Use this function to adjust throttle and brake travel adjustments.
  - › Throttle Adjustment:
    - » Pull the throttle trigger completely to full throttle and use the "TH+" or "TH-" buttons to adjust the throttle end point to the desired location.
  - › Brake Adjustment:
    - » Push the trigger completely to the full brake and use the "TH+" or "TH-" to adjust the brake end point accordingly.

**Power Alarm:**

- Idle and Low-Battery Alarm
  - › When the steering wheel, throttle trigger, or any button is not operated for 10 minutes while the transmitter is on, a slow beeping alarm will sound to indicate that there has been no action and the power should be turned off.
- Low Battery Voltage Alarm
  - › If the transmitter battery voltage drops to 6.7V or less, a slow beeping alarm sounds and the power LED light will blink.

**Battery Replacement:**

**WARNING: Do not attempt to charge non-rechargeable batteries**

**NOTE: Load the six AA batteries in accordance with the polarity marking on the battery holder.**

1. Remove the battery cover from the transmitter
2. Remove the old batteries
  - a. **NOTE: Never mix brands or old/new batteries**
  - b. Always be sure to be responsible and protect the environment when disposing batteries. Your local Hobby-Town USA® dealer provides a FREE battery disposal service
3. Insert the six new AA batteries according to the polarity markings on the battery holder
  - a. If using rechargeable batteries, be sure to follow the manufacturer's care and use instructions
  - b. Rechargeable batteries must be removed from transmitter before charging
4. Replace the battery cover
5. Slide the Power switch to the ON position. If the voltage is low, the low battery alarm will sound. If the low battery alarm sounds, check that the batteries are properly inserted and are making sufficient contact.
  - a. Low Battery Alarm
    - i. An alarm will sound if the transmitter voltage drops below 6.7V. This alarm is meant as a safety feature only. The transmitter should not be operated below 6.7V. If the low battery alarm sounds, stop using your model immediately and turn off both the model's receiver and the transmitter. Replace the transmitter batteries immediately with fresh AA batteries to prevent loss of control of your model
    - b. Always check the voltage of the transmitter before use.
6. Always be sure to insert the batteries correctly according to the polarity markings, or the transmitter may be damaged.
7. When the transmitter will not be used for a long period of time, remove the batteries to prevent leaks and corrosion.

**Setting the ESC:**

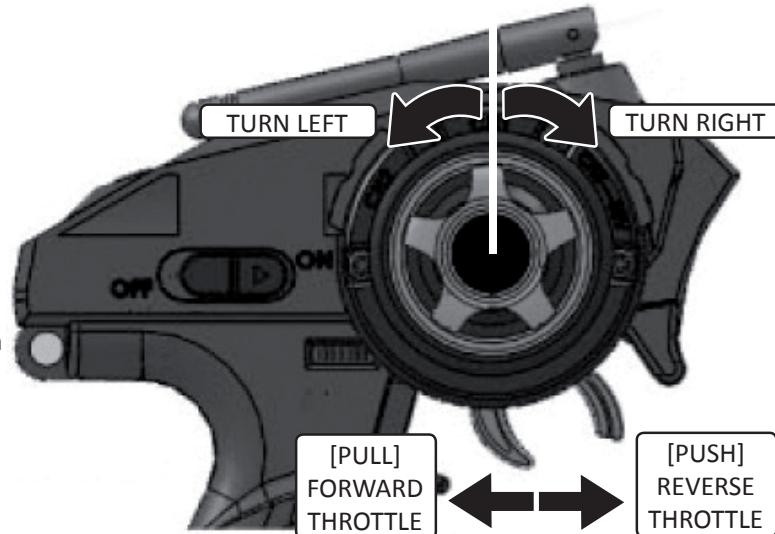
The ESC in your Dominus 10SC is pre-programmed to work best with the HRS-3 radio system. Use with another radio system will not provide consistent performance and is not recommended.



## # HRS-3 STANDARD OPERATION...

Standard operation:

- When looking at the face of the transmitter wheel:
  - › Turning the top of the transmitter wheel to the left from center makes the wheels on the vehicle turn LEFT
  - › Turning the top of the transmitter wheel to the right from center makes the wheels on the vehicle turn RIGHT
    - » When driving your vehicle for the first time, take care and notice the direction the car turns when driving away from you vs. towards you. It is best to learn how things work when driving away from your position, *but don't go too far!*
- Pulling the transmitter trigger back towards the handle will make the vehicle accelerate forward
- Pushing the transmitter trigger forward away from the handle will have the following affects depending on the location of the trigger prior to pushing it forward
  - › From a stop at neutral: the vehicle will travel in reverse
  - › From pulled back: the vehicle will apply brakes to slow the speed
    - » A second push forward of the trigger will apply reverse throttle
    - » **WARNING: Causing the vehicle to make quick transitions from forward/reverse motion to the opposite direction using the throttle control can cause damage to your vehicle and will void the warranty**

Using your transmitter for the first time:

1. Turn the transmitter ON and ensure the LED is lit SOLID and it is not giving an audible alarm indicating the batteries are supplying adequate voltage for proper operation
2. Ensure the battery in your vehicle is secured, charged and plugged in with proper polarity and turn your vehicle ON
3. Checking and setting the throttle trim
  - a. If the wheels spin in a forward direction when the trigger is in the neutral position, turn down the trim until the motor stops by pressing the TH- button, repeatedly if necessary
  - b. If the wheels spin in a reverse direction when the trigger is in the neutral position, turn up the trim until the motor stops by pressing the TH+ button, repeatedly if necessary
  - c. There will be a "dead band" area where the trim can be adjusted a slight amount in either direction and the wheels will not begin to move. It is ideal to have the trim set in the middle of this "dead band"
4. Setting the steering trim
  - a. With your vehicle and transmitter turned on (and properly responding to transmitter inputs), set the vehicle down on the ground and slowly accelerate in a direction directly away from you. If the vehicle veers slightly either to the left or right, adjust the steering trim by pressing either the ST- (more left) or ST+ (more right) buttons, repeatedly if necessary
  - b. Reset the vehicle and re-test; adjust the trim as needed until the vehicle travels in a straight line while the transmitter wheel remains at center location ("hands-off")

## # ADJUSTING AND TUNING YOUR DOMINUS 10SC...

The Dominus 10SC has been engineered with some available tuning options listed here for reference. The default configuration has been chosen to provide what we feel is the most enjoyable experience for most operating conditions. However we do encourage experimentation and testing as that's where the real fun begins!

**Ride height adjustment:** It is possible to adjust the ride height of your Dominus 10SC by installing and or removing adjustment clips located directly above the shock springs.

- Adding more clips will raise the ride height of the vehicle and if done excessively may decrease stability.
- Removing clips will lower the ride height and may cause the chassis to drag on the ground.



## ADJUSTING AND TUNING CONTINUED... #

It is ideal to have the drive shafts level with the ground while the vehicle is sitting on a flat surface with the body installed. Add or remove clips to achieve the desired ride height.

**Upper Shock Position:** There are two shock installation locations for the top mounting location of the shocks. The default position is outside (located farther from the centerline of the chassis)

Moving the shock mounting location to the inner location will result in a slightly less responsive feel on the front or rear of the vehicle but be a little more stable.

**Lower Shock Position:** There are two shock installation locations for the lower mounting location of the shocks in the suspension arm. The default location is outside. Moving the shocks to the inside location will result in a slightly more responsive feel on the front or rear of the vehicle but become a little less stable. This change will also increase the vehicle's articulation and you will notice more body roll. Always check and adjust, if necessary, the ride height of your vehicle after moving the shock mounting locations.

**Battery mounting:** Your vehicle comes equipped with and default mount setting for a 7-Cell NiMH flat battery. By moving the forward most battery mount to the back mounting position it is possible to fit a 6-Cell size NiMH (or standard hard case 7.4V LiPo). Adjust the battery mounts to fit the battery you will use. It is not recommended to run a 6-Cell size battery with the mounts in the 7-Cell configuration since the battery will not be secure during a crash.

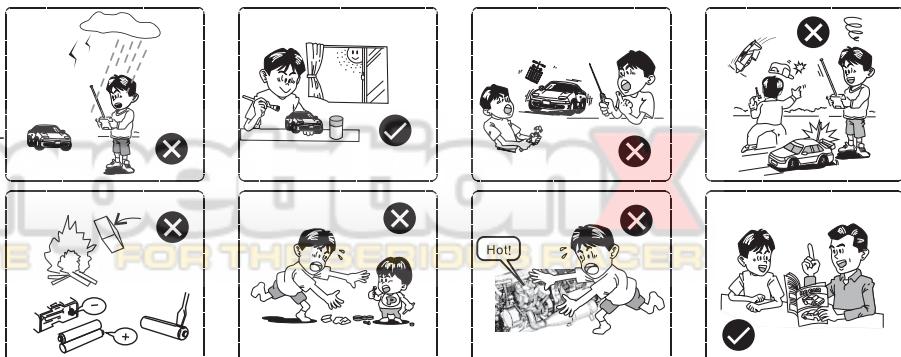
**Body Mount Height:** The body mounts are capable of vertical adjustment with many height options available. The default setting allows for the lowest body position while maintaining component clearance. Adjust the body mounts to achieve a desired look, we recommend the lowest possible mounting (without hitting the tires when the shocks are fully compressed) for best performance.

## SAFETY TIPS... #

Although great for first time users, Helion RC products are indeed advanced radio controlled vehicles with sensitive electronics and moving parts capable of causing injury if used improperly. Always use caution and common sense as failure to operate your Helion RC product in a safe and responsible manner can result in damage to the product or other properties. Therefore this product is not intended for use or maintenance by children without direct adult supervision. Helion RC and HobbyTown USA® shall not be liable for any loss or damages, whether direct, indirect, special, incidental, or consequential, arising from the use, misuse, or abuse of this product or any product required to operate or maintain it

- Do not operate your vehicle in rain, electrical, or thunder storms
- The vehicle should never be turned ON without the transmitter being turned ON
- Never operate your vehicle when with low transmitter batteries
  - › Indicated by flashing LED on the transmitter
- Always check for proper radio system operation (steering and throttle) prior to letting go of the vehicle. If the vehicle does not respond properly to transmitter input, turn the vehicle OFF and inspect all connections and operating environment. Also see the Troubleshooting guide in this manual
- Optimal enjoyment and safety will occur in a dry (no puddles), open environment away from traffic, and cars (never run into the street for any reason)
- Always turn off both transmitter and ESC and disconnect the battery from the ESC after use
- Exercise extreme caution when touching the motor immediately after running your vehicle, it may be HOT and may cause a burn
- Always allow the motor in your vehicle to cool before using again

**NOTE: Only use genuine replacement or aftermarket parts available from your local HobbyTown USA® to ensure proper operation of your Helion RC product.**





## # CARE AND MAINTENANCE...

**General Care:**

Always use clean, dry cloth or soft bristle brush to clean your equipment

Never use chemical cleansers to avoid damage to the sensitive electronics and plastics

**Maintenance:**

We want you to enjoy your product to its fullest potential. For this to happen it is important to keep your product clean and properly maintained. Lack of cleaning and maintenance can cause component failure. For best and continued performance from your product it is recommended to briefly inspect your product for damage every few runs. Typically, a good time to do this is when changing the battery or while it is charging. If a problem is discovered, stop use immediately and perform repairs or seek assistance. Continued use of failed components can cause more unnecessary damage to your product. Always remember to use genuine replacement parts from your local HobbyTown USA® dealer. Below is a list of items for inspection. Inspection should not be limited to this list; if you notice any problem, listed or not, it is recommended to give it proper attention.

1. Electronics: Although the ESC and servo included in your vehicle are waterproof the receiver is not, however it is contained in a water resistant box. It is recommended that you avoid submersion of the vehicle however light running in puddles and light rain should not be damaging. If you plan to run for extended periods of time in light or heavy rain it is recommended to secure the receiver in an additional waterproof membrane. Since the Helion HRS-3 receiver is a micro size receiver, fitting it into a balloon is fairly easy. Simply insert the receiver with connected wiring into a balloon and secure the balloon around the wires with an additional rubber band as close to the receiver as possible, allowing the most exposure of the antenna as possible.
2. Antenna: To achieve full operating range with your radio system, it is critical that the receiver antenna be installed properly and undamaged
  - a. Inspect any exposed antenna for cuts or abrasions
  - b. Ensure there are no kinks in the antenna or antenna tube
  - c. Never fold the end of the antenna over the tube, this will reduce the range and damage the antenna
3. Gears: Periodically remove the gear cover to inspect the gears and ensure there is no debris in the gear compartment
  - a. Proper gear mesh setting is crucial for proper operation and life of gears in your product. It is important to have the pinion gear (attached to motor) as close to the spur gear (attached to drive shaft) as possible yet while providing a minimal amount of backlash. Backlash is the rotation one gear has to make before contacting the other. Having the gear mesh set too tight will cause excess load on the electrical components and may cause premature failure. Having gear mesh set too loose will cause excess wear and possible skipping of teeth during operation thus causing excess wear and premature failure
  - b. Checking the gear mesh
    - i. Remove the spur gear cover
    - ii. Check how much movement is allowed of the spur gear before the pinion gear moves (this is purely by feel, not visual). Check this movement in multiple places by rotating the spur gear approximately 1/6 rotation and checking again.
    - iii. If the spur gear is allowed to move more than a very small amount, or if there is no backlash, the gear mesh must be adjusted. If there is a lot of movement, it is recommended to attempt to tighten the mesh. Attempted adjustment should only improve the situation; if the mesh was correct to begin with, you will know what that feels like, and if it wasn't correct, it will be when you are done after following these procedures.
    - iv. Setting the gear mesh
      - 01). Loosen the two screws securing the motor plate to the motor mount, only enough to allow the plate to move. Check and ensure there is no debris in the gears affecting the mesh
      - 02). Slide the top of the motor plate away from the center of the chassis, insert a strip of notebook paper between the pinion and spur gear, then slide the motor plate back until there is no backlash. You will have to push relatively hard to ensure the paper is pressed all the way into the teeth
      - 03). Hold the motor snugly in position while retightening the screws, top first, then bottom
      - 04). Rotate the spur gear to feed the paper out of the mesh, re-check the gear mesh and adjust again if necessary
    - v. Re-install the spur gear cover



## MAINTENANCE CONTINUED... #

**WARNING:** Never operate your vehicle with the spur gear cover removed. Severe injury, damage to electrical components, and excessive wear and tear on drivetrain may result.

4. Shocks: Periodically inspect the shocks for smooth motion, leaking oil and dirt residue build up around the shaft
  - a. Do not allow dirt to build up around the shock shaft and bottom of the shock. Doing so will reduce the life of the shock and cause a shock to leak oil. Be sure to clean the shocks regularly with a clean and dry soft bristle brush and/or rag
  - b. Signs to look out for determining if your shock needs to be maintained or rebuilt
    - i. Oil around the shaft means the oil leaked from inside and needs to be replaced
    - ii. Persistent oil around the shock shaft or lower portion of the shock typically points to damaged O-rings which will need replacing. See your local HobbyTown USA® for replacement parts
    - iii. Refilling your shocks:
      - 01). Remove shock from vehicle, remove spring and top cap
      - 02). With shock shaft extended, add oil to top of body (use only 100% silicone oil)
      - 03). Slowly compress the shock shaft 50% of travel using a towel or paper napkin to clean up over-flowed oil
      - 04). Slowly reinstall the shock cap and check for free motion of shock
      - 05). It is normal for the shock to rebound (with the spring removed) after full compression and release
    - iv. Replacing the O-rings:
      - 01). Disassemble shock and remove shaft from the body
      - 02). Carefully remove lower cap by unscrewing from the shock body
      - 03). Remove the O-rings and spacer and replace with genuine replacement parts
      - 04). Re-assemble the shock following the refilling instructions above
5. Tires and wheels:
  - a. Inspect the tires to ensure they are properly glued to the wheels. The tires on your vehicle come pre-glued from the factory; however after running your vehicle it is possible for the glue to come loose in some areas.
    - i. To reattach the tire to the wheel, use hobby grade Cyanoacrylate (CA) glue and apply small amounts (one drop at a time) between the tire and wheel. Allow the glue to fully dry before operating your vehicle
    - ii. When reinstalling tires, use caution when tightening the nuts that secure the wheels to the vehicle. Ensure they rotate freely but don't wobble excessively. Over tightening the wheels may cause excess strain on the electrical and mechanical components of your vehicle. Operating your vehicle under these conditions will void your warranty
    - iii. Tire wear: Consequently running your vehicle will cause the tires to eventually wear out. Be sure to obtain and use genuine replacement parts from your local HobbyTown USA® dealer when necessary
6. General wear and tear:
  - a. Use of your vehicle will cause general wear and tear which is not covered under warranty yet may necessitate replacement of components. Continued operation of your product with worn components may cause continued damage to other components
  - b. Be sure to regularly inspect your vehicle and accessories for excess wear and damaged components

## STORAGE AND DISPOSAL... #

**Storage:**

- Always store all equipment in a cool dry place when not in use
- Always disconnect the batteries before storage
- Never store the battery, vehicle or transmitter in direct sunlight for extended periods of time
- Never store the transmitter with batteries installed for extended periods of time. Doing so may allow the batteries to leak and cause permanent damage to the transmitter

**Disposal:**

Your product is equipped with NiMH batteries which are considered electronic waste and should never be discarded in standard garbage containers. Please visit your local HobbyTown USA® dealer and use the FREE battery disposal center for proper disposal/recycling. Consult your local city hall for information on recycling other electronic waste

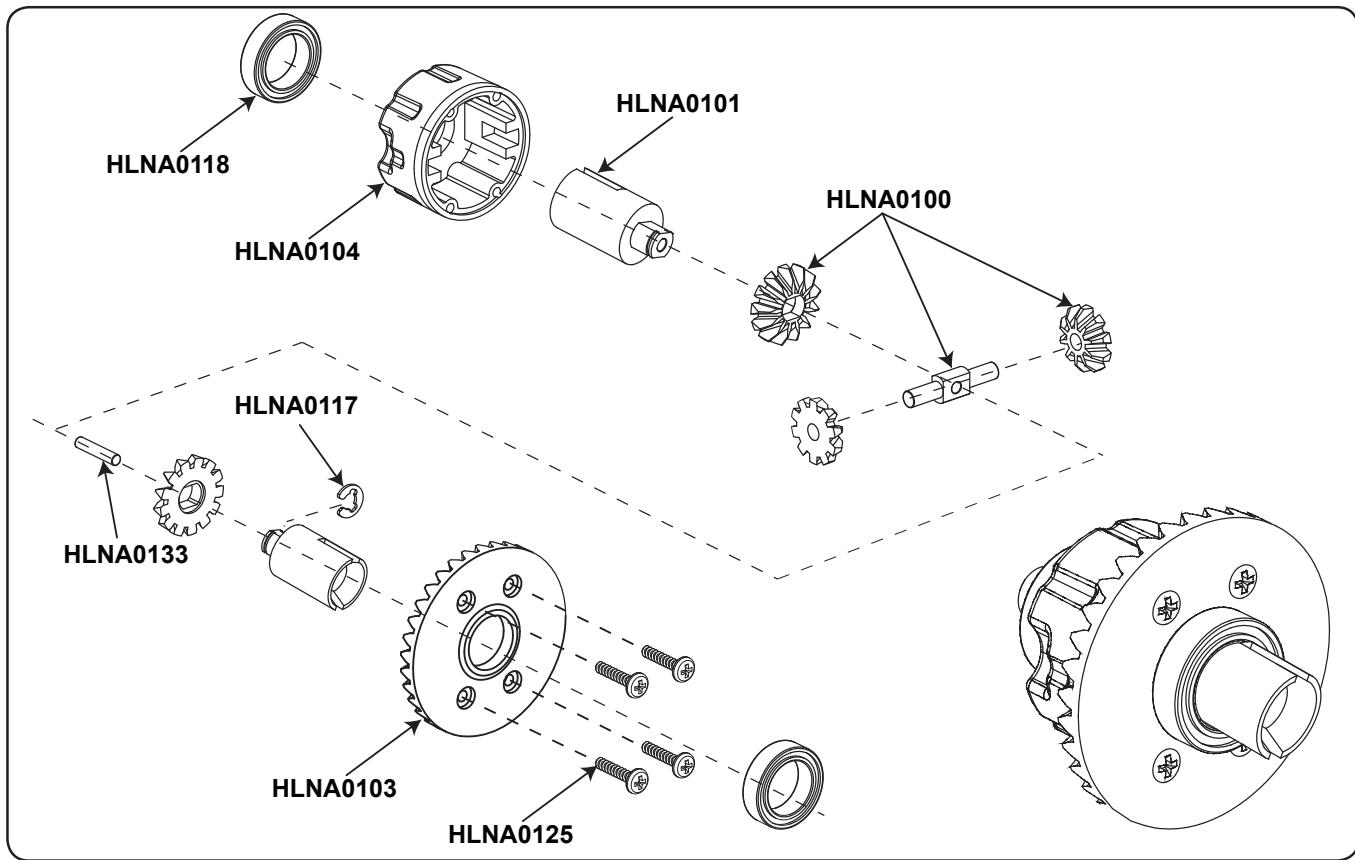


## # TROUBLESHOOTING GUIDE...

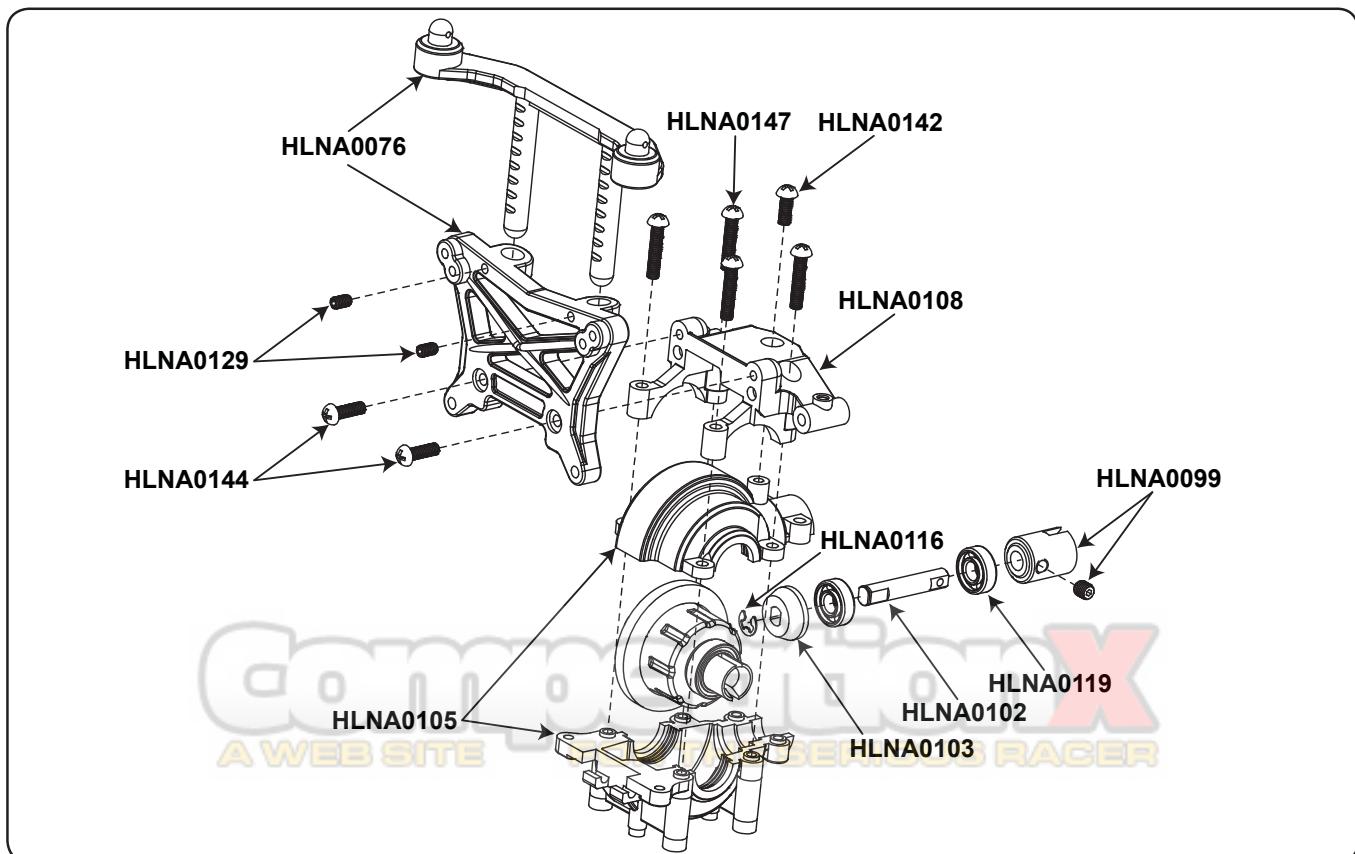
Problem / Symptom	Possible Cause	Possible Solution
Vehicle will not turn on	Battery voltage too low	Charge battery
	Battery not connected	Re/connect battery
	Damaged battery	Replace battery
Transmitter will not turn on	Battery voltage too low	Charge or change batteries
	Battery/ies installed improperly	Correct installation
Short radio range (Vehicle stops responding to transmitter at short distances)	Damaged or improperly installed receiver and antenna	Check receiver antenna for damage. Ensure antenna is properly installed in tube and mount, extending perpendicular from the ground. Ensure all connections are secure
	Receiver is malfunctioning	Replace receiver
	Battery voltage too low	Replace or recharge batteries in transmitter and vehicle
Steering not responding as expected	Trim not set properly	Adjust steering trim
	Screws too tight on steering parts	Adjust screws to allow for free motion
	Fasteners have become loose	Check and tighten all fasteners to as new condition, be careful to not over tighten
Vehicle not responding as expected to transmitter	Trims not set properly	Adjust throttle and/or steering trim
	Radio system lost bind	Re-bind radio system
	Bad electrical connections	Check motor and battery plugs to ensure they are fully connected
Wheels twitch while vehicle is idle (controls at neutral)	Transmitter too close to receiver (<1m)	Increase distance between the units
	Receiver wire damaged	Inspect antenna for damage and replace if necessary
	Receiver antenna not installed in vertical position	Install in mount with care to not damage antenna wire
Steering will not trim straight, always has right bias	Binding in steering system	Inspect and correct any binding components or loosen screws if over tight
	Side wheels too tight	Check and adjust wheel nuts on the right side of the vehicle to ensure the wheels are not too tight
Vehicle top speed and acceleration is slow	Battery voltage too low	Charge battery
	Drivetrain has too much friction	Check for debris/excessive wear on gears, inspect bearings
	Gear mesh too tight	Loosen gear mesh
	Pinion gear is loose	Check and tighten set screw on motor pinion
	Differential broken	Check differential and ensure the outdrives are secured and gears intact. You should not be able to pull them out
	Drive pin missing	Check for missing wheel pins (behind wheel hexes), or dogbone pins
Wheels not spinning freely	Wheels too tight	Check and adjust wheel nuts
	Differentials stripped	Check differentials and replace/repair if necessary.
Battery charge stops lasting as long as it used to	The battery has become old	Replace battery
	Battery not charged completely due to insufficient charge time	Charge for longer period of time or try a peak detection charger. We recommend the Radient Primal (RDNA0001)
	Gear mesh too tight	Check and reset gear mesh setting
	Charger, battery, wires, or plug has malfunctioned	Check all connections and wires for damage or excessive wear and replace if necessary
Shocks and/or arms covered in oil	Shock O-ring seals are worn	Replace O-rings and refill shock with oil
	Top shock cap too loose or over tightened	Check tightness (finger tight), refill shock oil
	Bottom shock cap dislodged	Check installation, refill shock oil
Spur gears stripping	Gear mesh too loose	Tighten gear mesh for proper backlash
	Fasteners loose or missing	Check for loose fasteners on spur gear mount and ensure all E-clips are in place



## DIFFERENTIAL ASSEMBLY... #



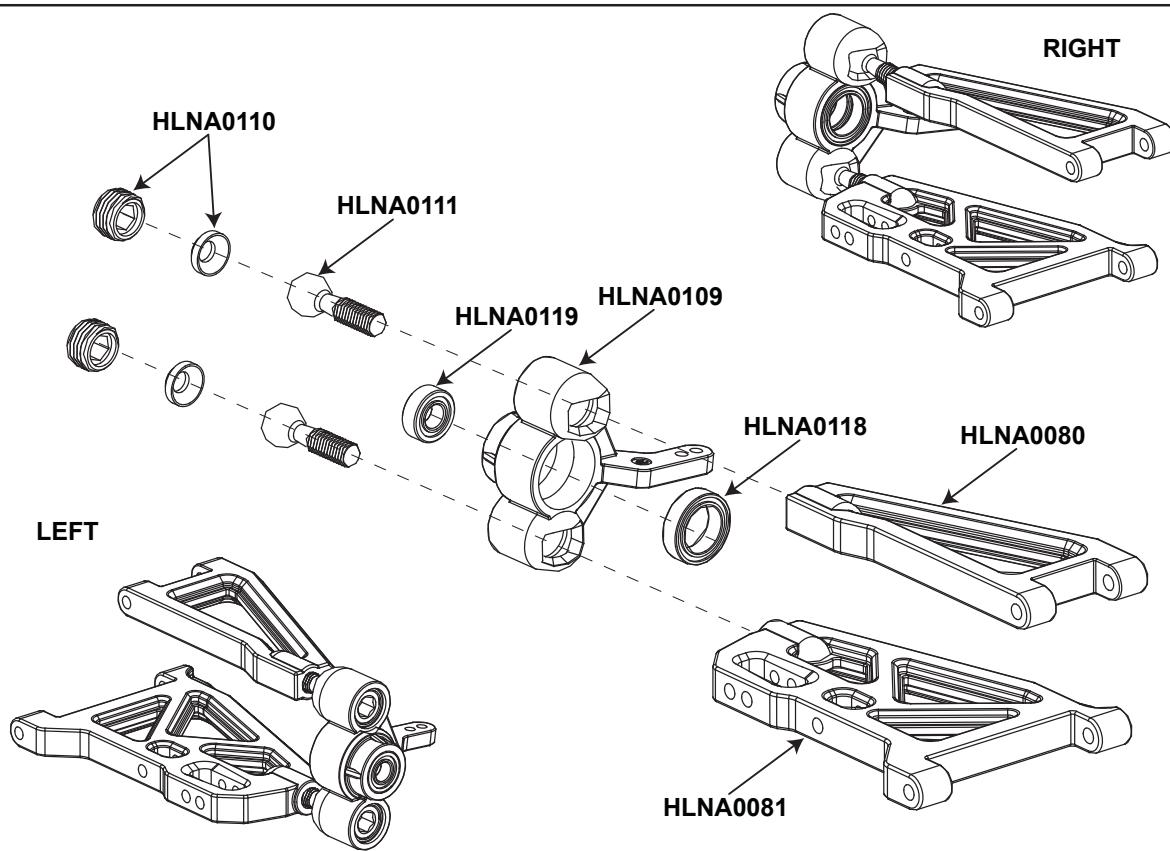
## FRONT GEARBOX ASSEMBLY... #



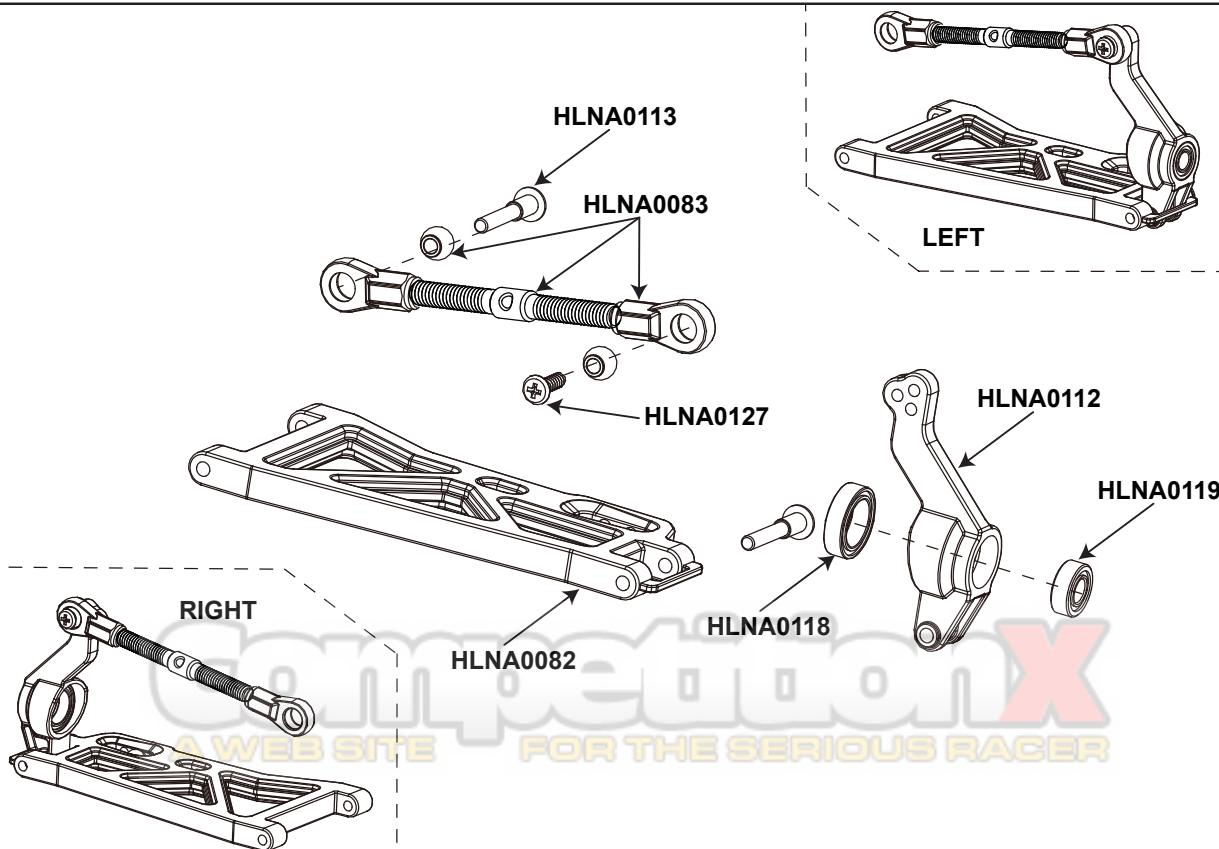
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## # STEERING HUB AND FRONT SUSPENSION ARM ASSEMBLY...



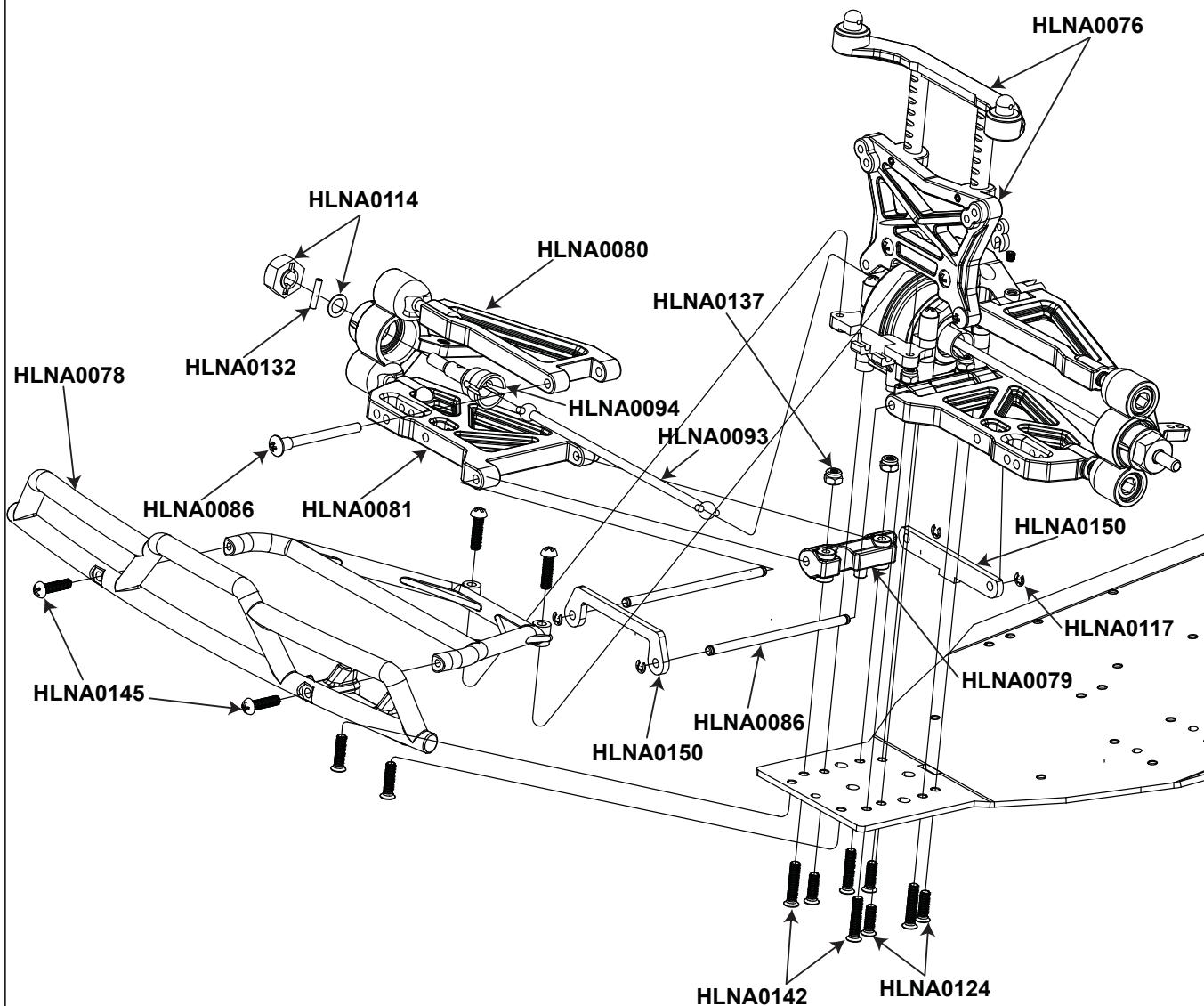
## # REAR HUB AND REAR SUSPENSION ARM ASSEMBLY...





FRONT SUSPENSION AND BUMPER ASSEMBLY...

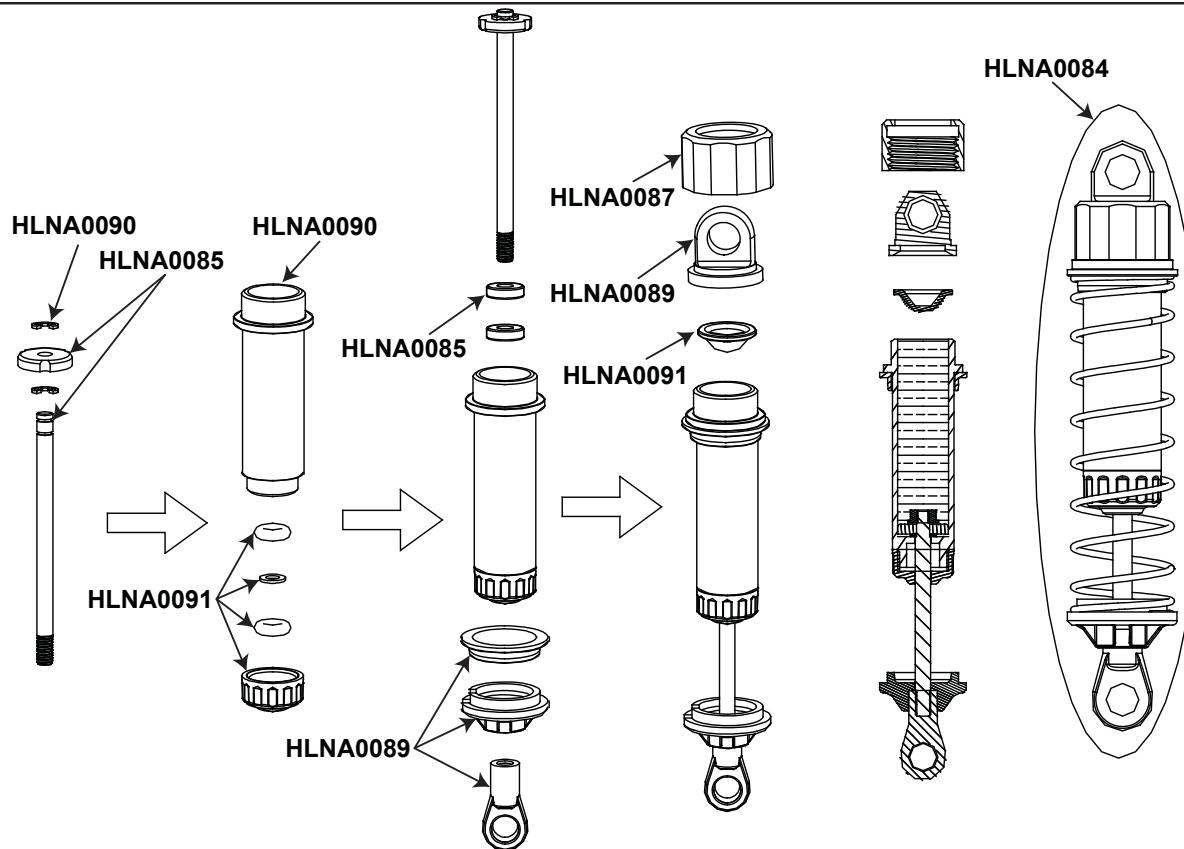
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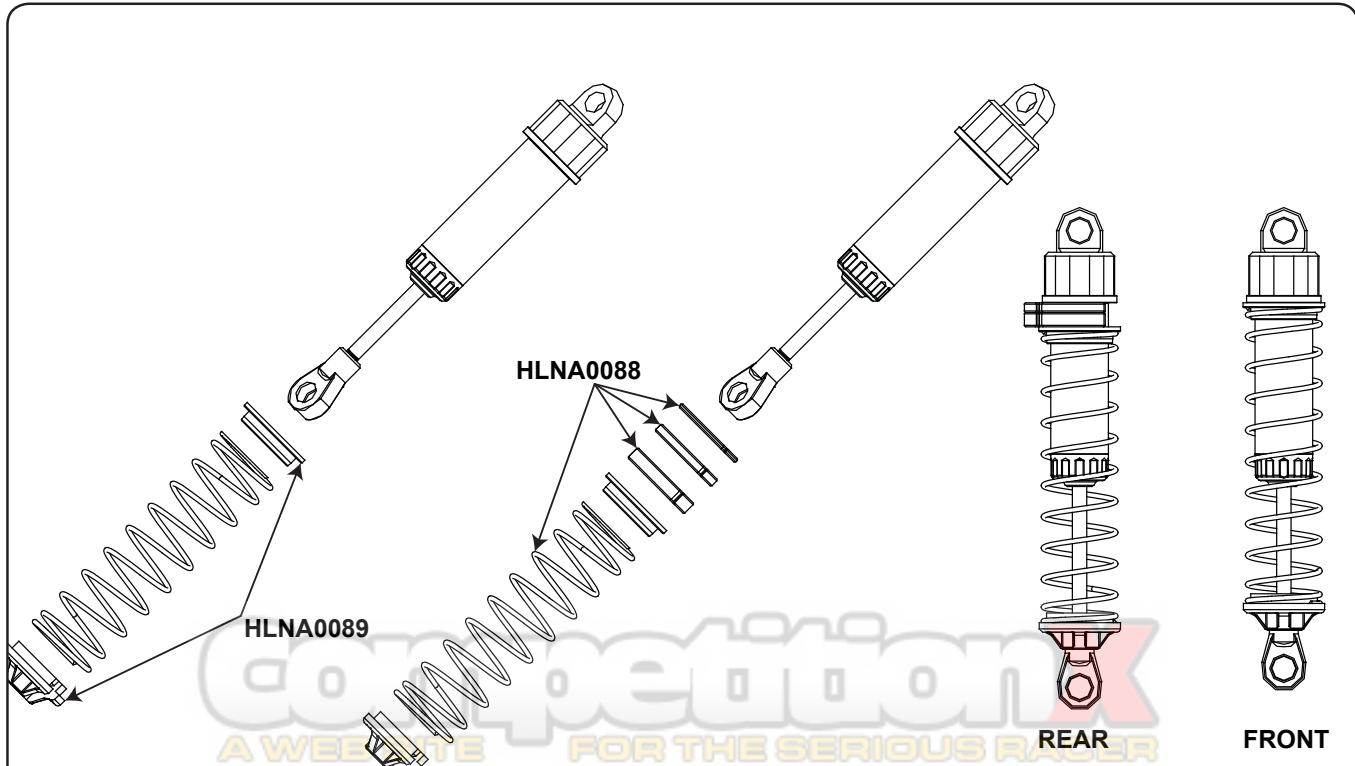
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## # SHOCK ASSEMBLY...



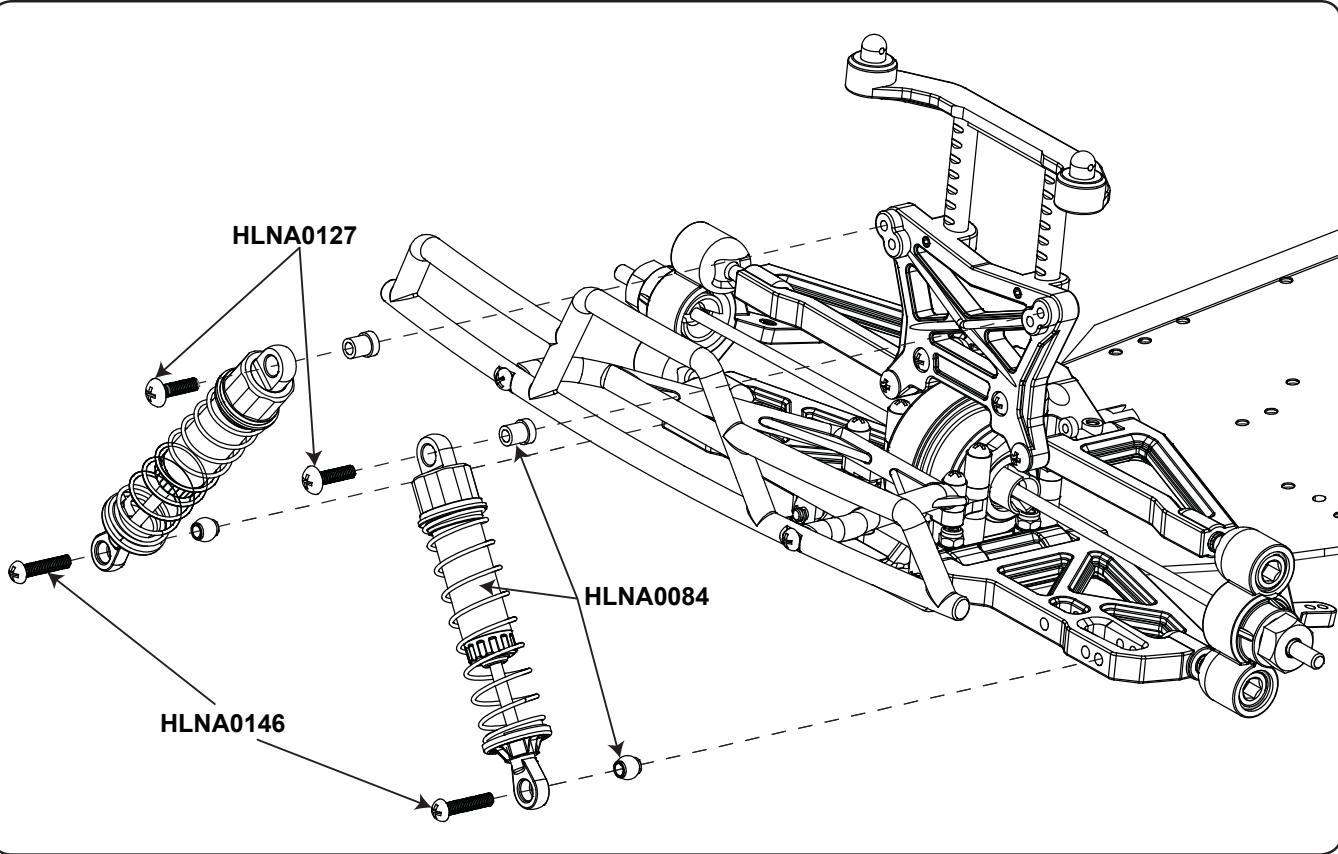
## # SHOCK SPRING INSTALLATION...





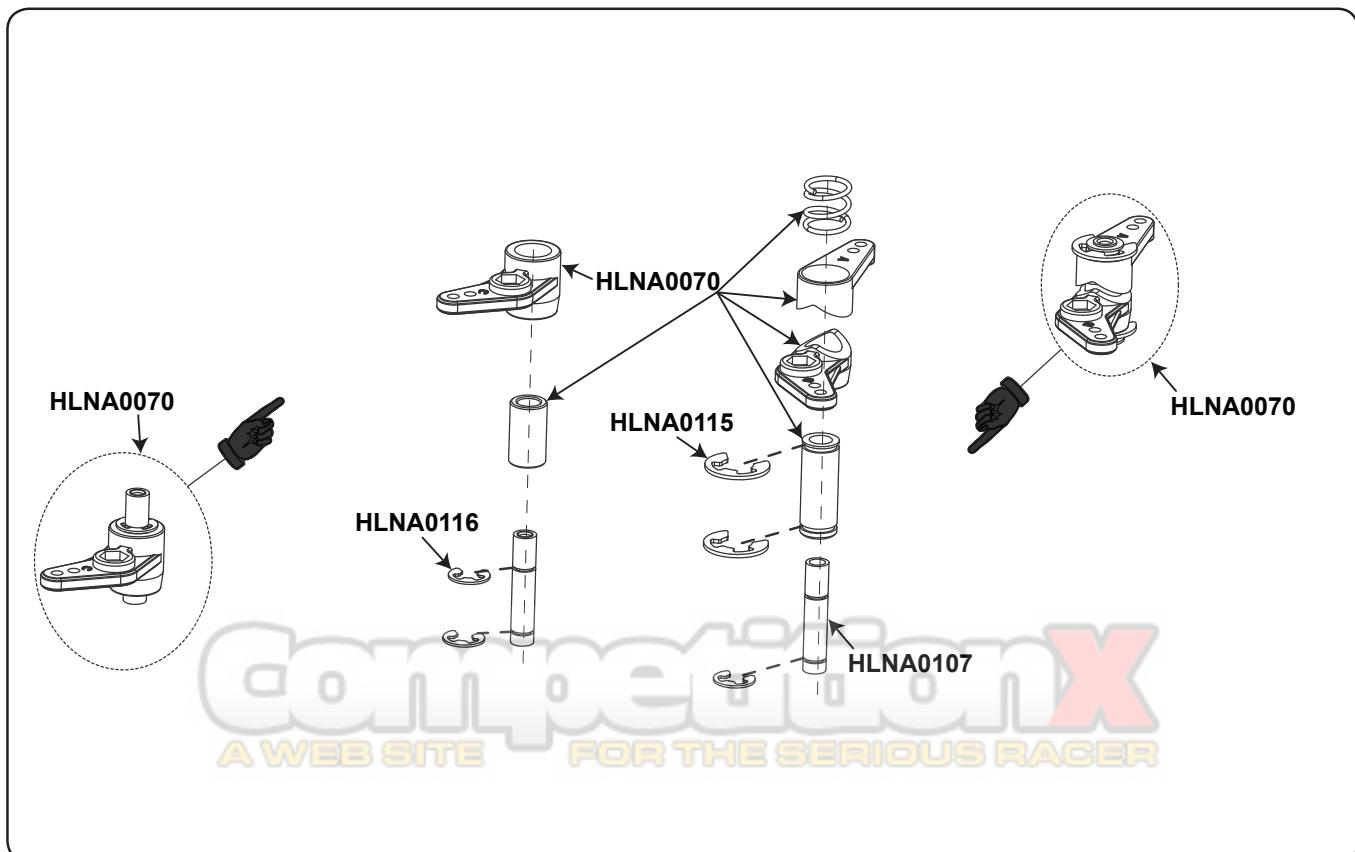
FRONT SHOCK INSTALLATION...

#



STEERING BELL CRANK AND SERVO SAVER ASSEMBLY...

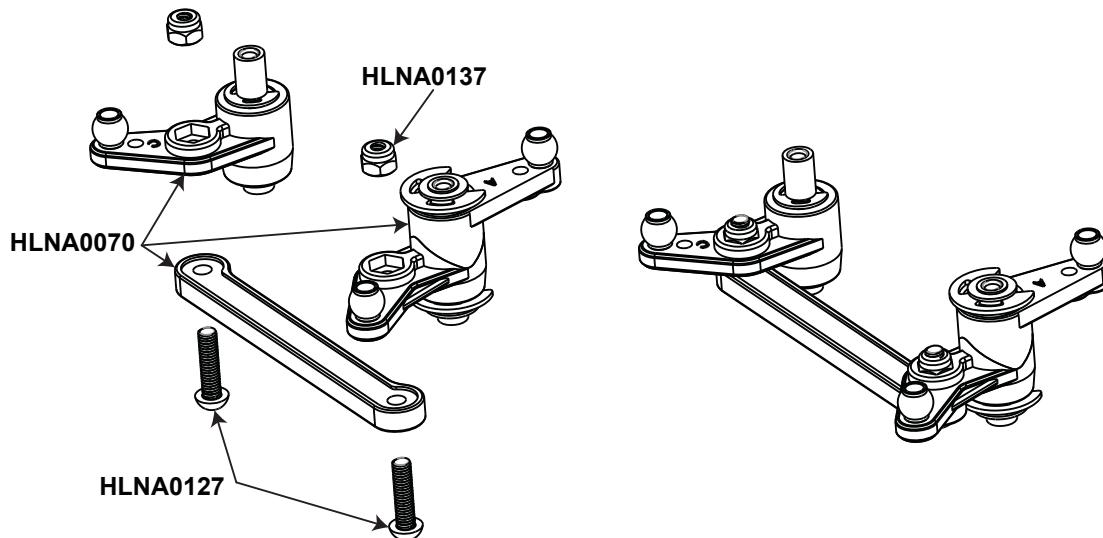
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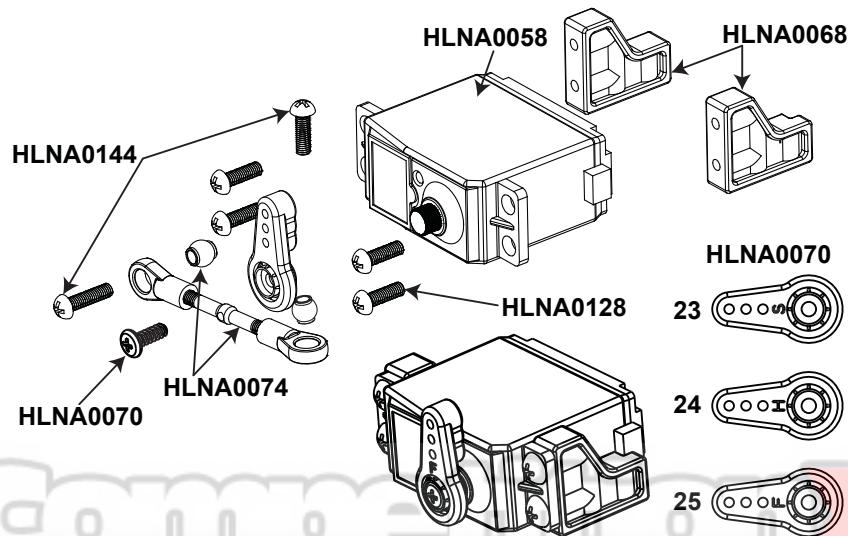
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## # STEERING RACK INSTALLATION...



## # SERVO ASSEMBLY...

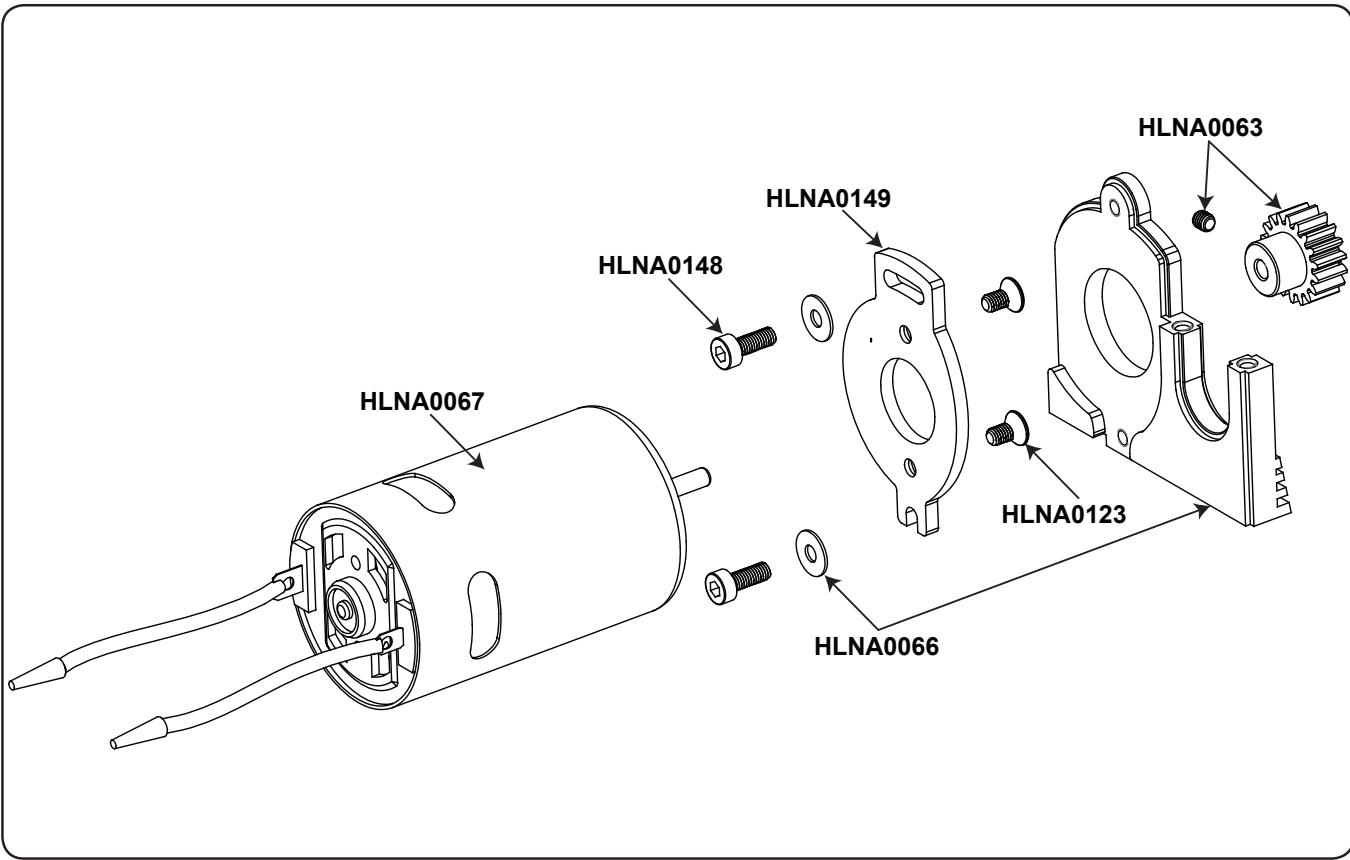


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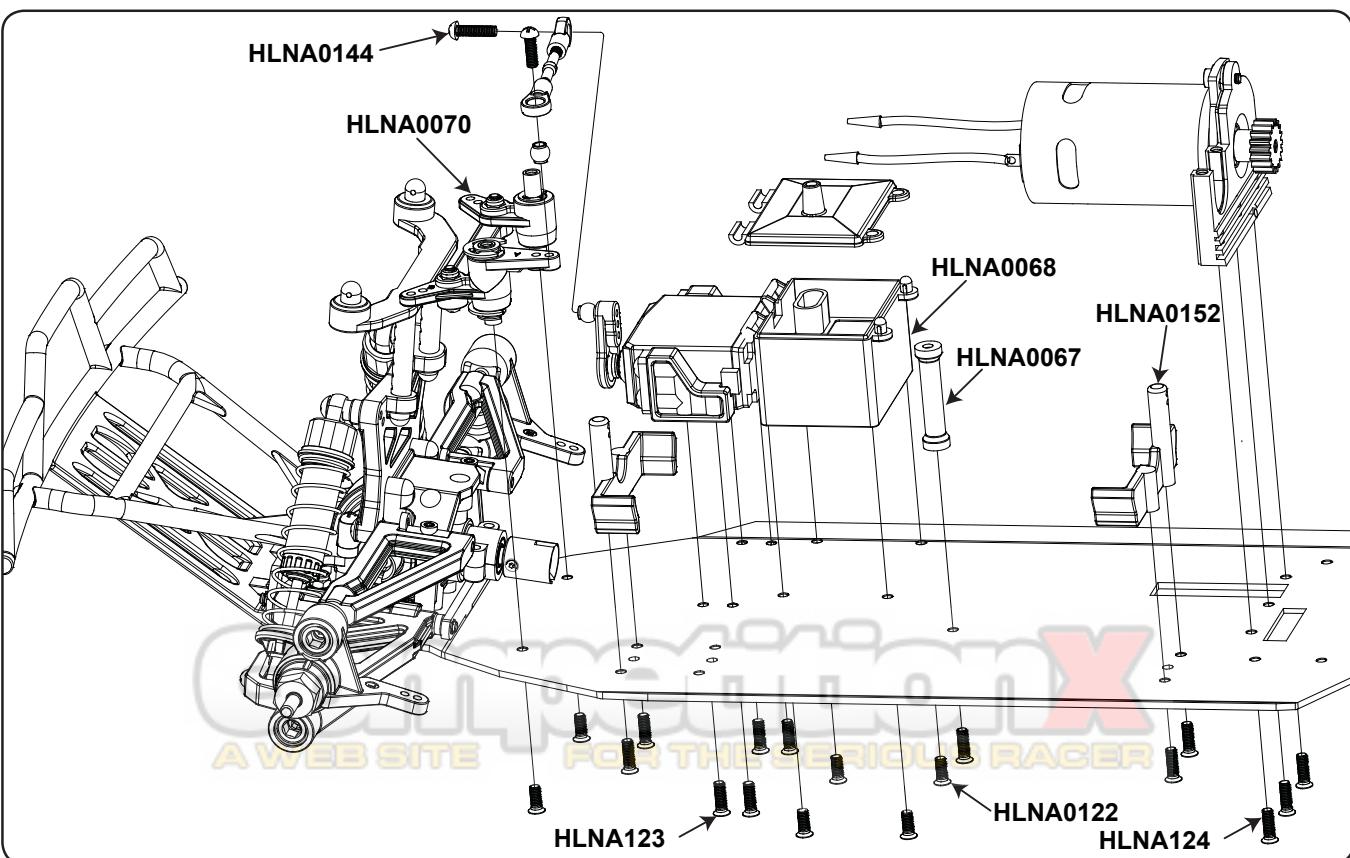
MOTOR MOUNT ASSEMBLY...

#



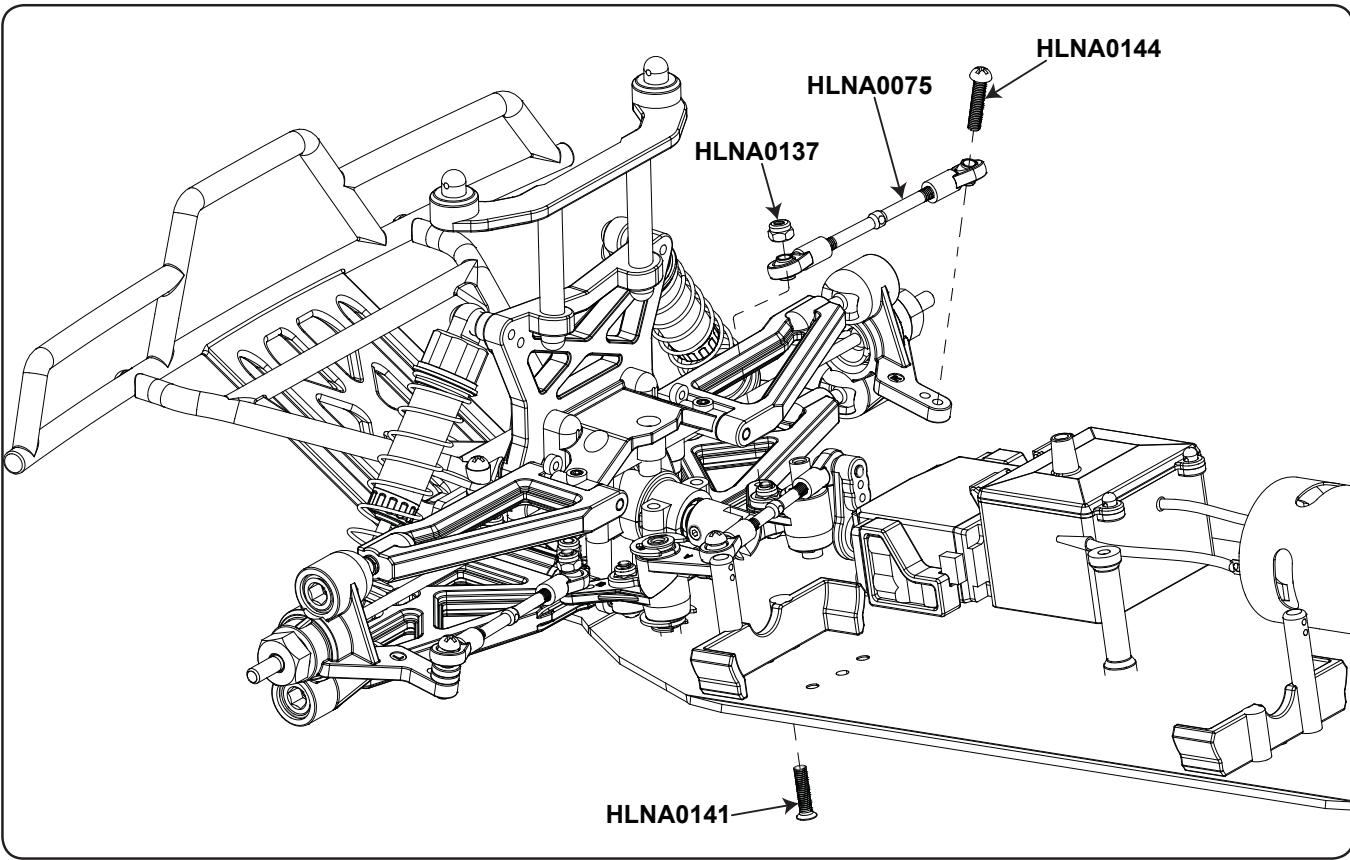
ELECTRONICS INSTALLATION...

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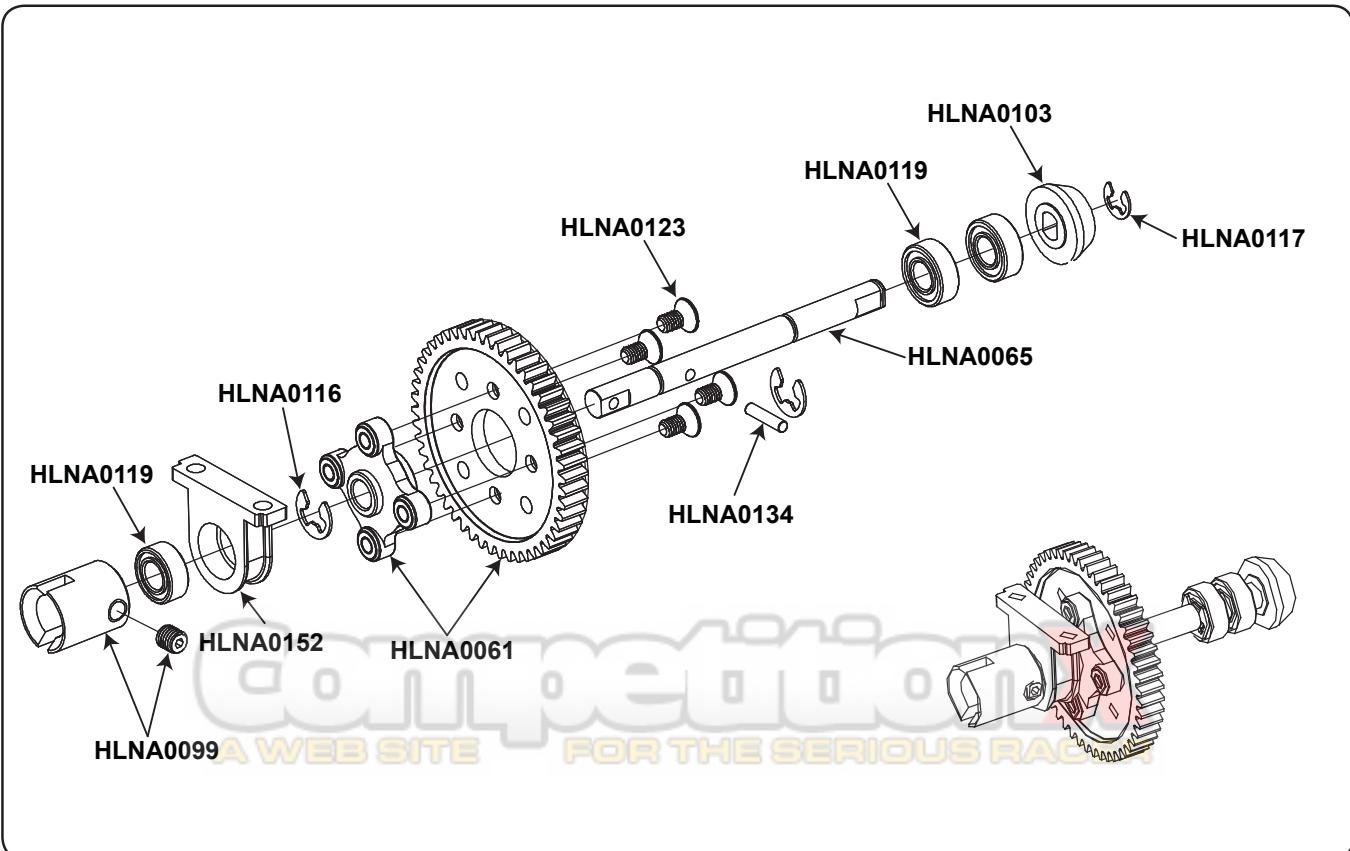




## # SERVO TIE ROD INSTALLATION...

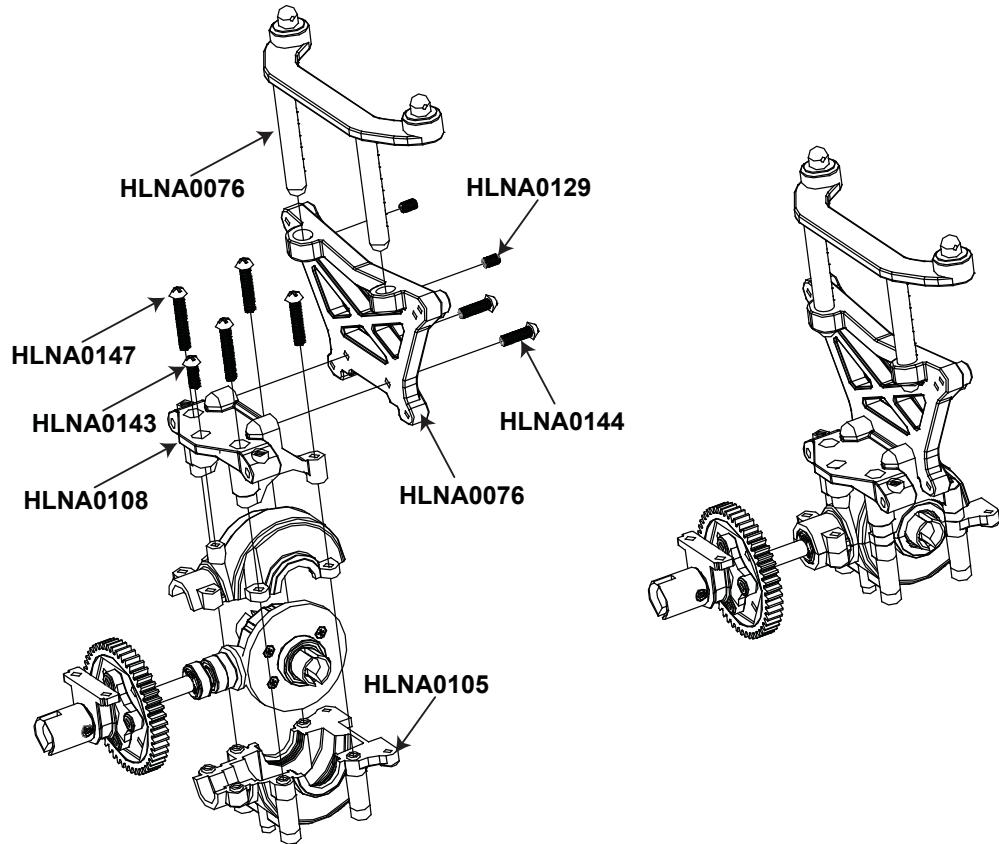


## # REAR INPUT AND SPUR GEAR SHAFT ASSEMBLY...

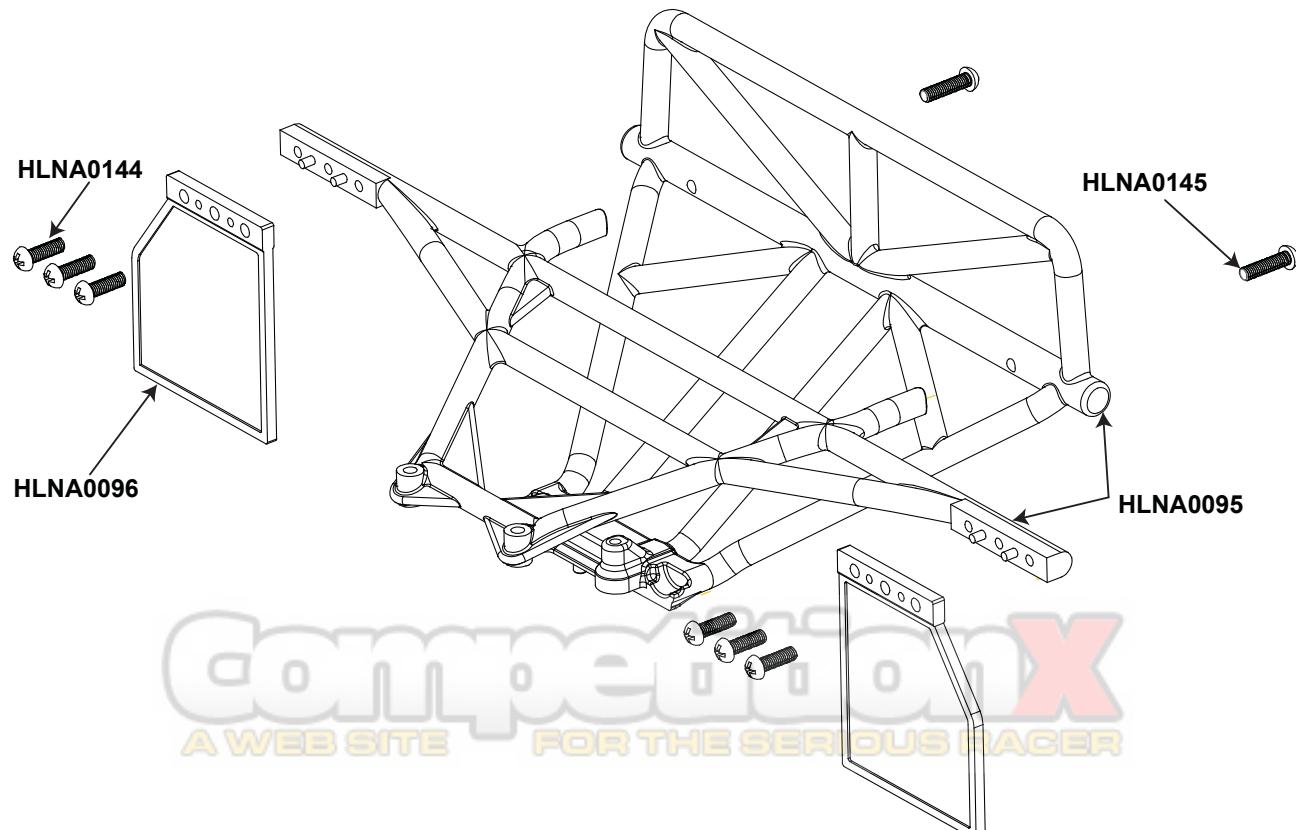




REAR GEARBOX ASSEMBLY... #

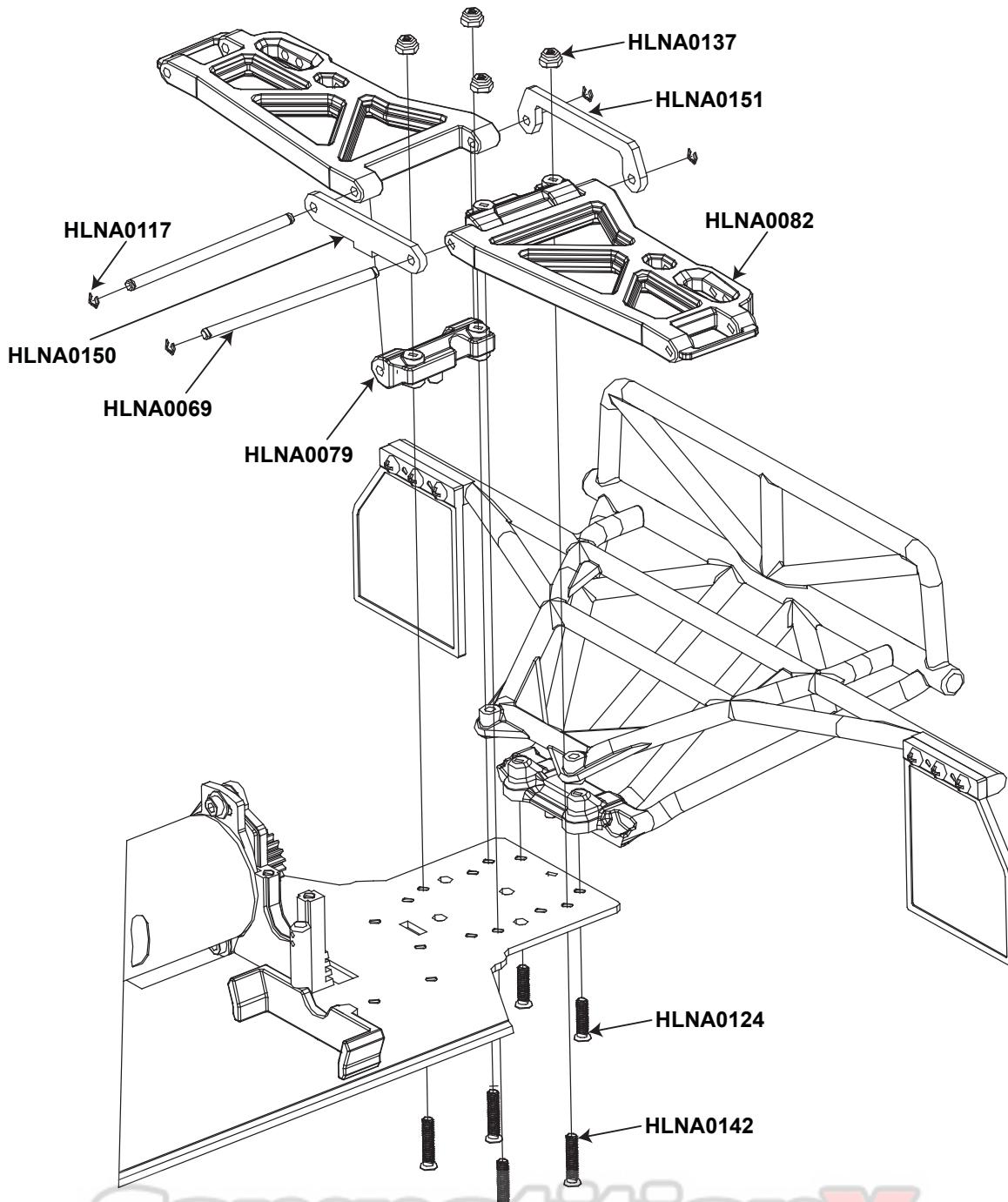


REAR BUMPER ASSEMBLY... #





## # REAR SUSPENSION ASSEMBLY..

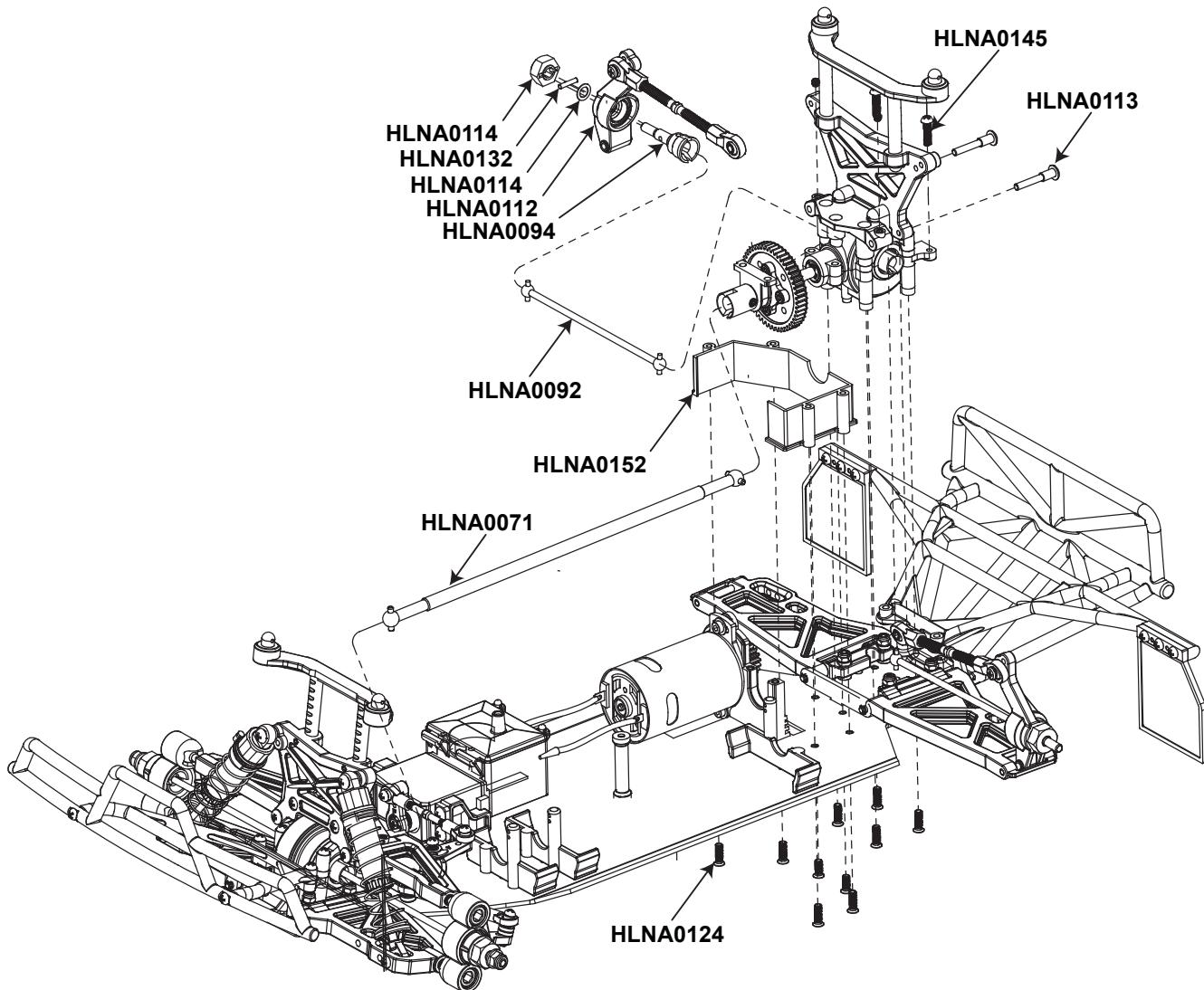


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REAR GEARBOX INSTALLATION...

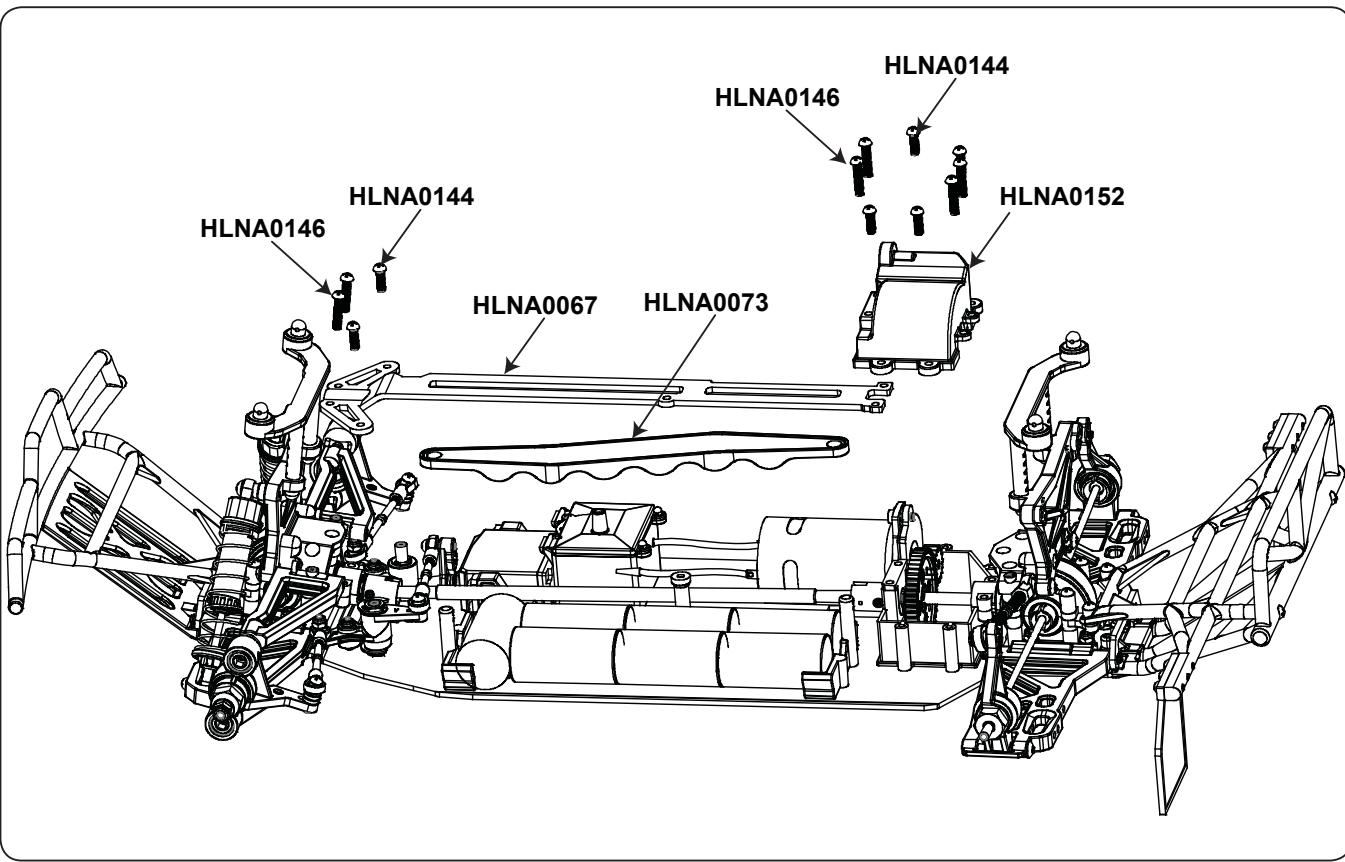
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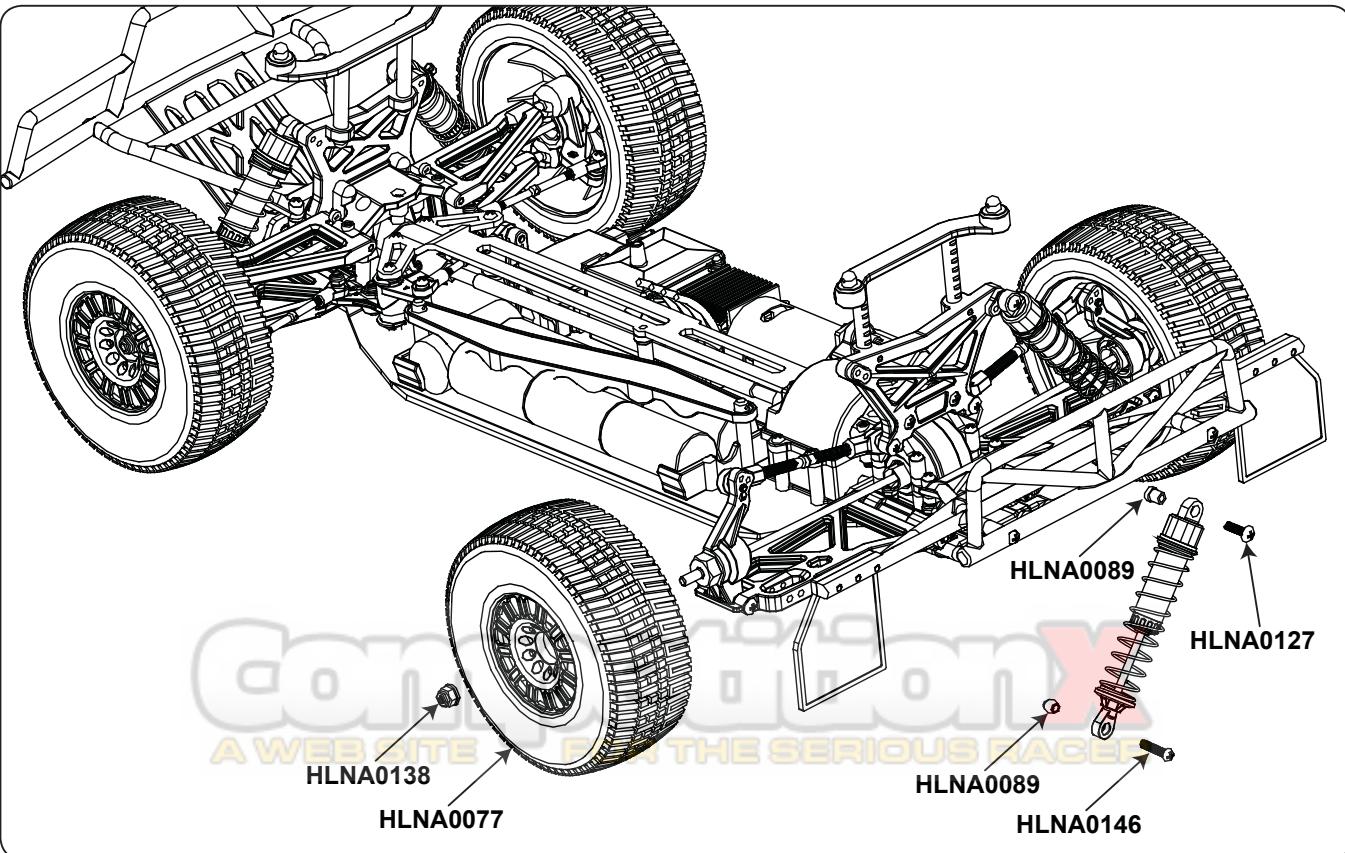
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## # TOP PLATE, GEAR COVER, AND BATTERY INSTALLATION...



## # REAR SHOCK AND TIRE INSTALLATION...





**NOTES... #**

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## # SPARE PARTS LIST...

HLNA0053 DOMINUS 10SC 4X4 SHORT COURSE ELECTRIC TRUCK.....  
HLNA0054 HELION HRS-3 2.4GHZ 3-CHANNEL TRANSMITTER.....  
HLNA0055 HELION HRS-3 2.4GHZ 3-CHANNEL RECEIVER.....  
HLNA0056 BATTERY, 7-CELL 1800MAH 8.4V, TAMIYA PLUG.....  
HLNA0057 MOTOR, BRUSHED 550, 21T.....  
HLNA0058 WATERPROOF SERVO, 42IN-OZ, 0.22SEC/60, PG, 1/10.....  
HLNA0059 ESC, BRUSHED, 30-15 WATERPROOF WITH REVERSE.....  
HLNA0060 NIMH WALL CHARGER, 7-Cell, US-Tam Plug .....

HLNA0061 SPUR GEAR, 50T, 32P (DOMINUS).....  
HLNA0062 PINION GEAR, 14T, 32P, BRASS.....  
HLNA0063 PINION GEAR, 15T, 32P, BRASS.....  
HLNA0064 PINION GEAR, 16T, 32P, BRASS.....  
HLNA0065 SPUR GEAR SHAFT (DOMINUS) .....

HLNA0066 MOTOR MOUNT (DOMINUS) .....

HLNA0067 CHASSIS TOP PLATE (DOMINUS, SC).....  
HLNA0068 RECEIVER BOX (DOMINUS) .....

HLNA0069 INNER HINGE PIN SET (DOMINUS).....  
HLNA0070 STEERING BELL CRANKS (DOMINUS).....  
HLNA0071 CENTER DRIVE SHAFT (DOMINUS, SC) .....

HLNA0072 MAIN CHASSIS (DOMINUS, SC) .....

HLNA0073 BATTERY STRAP AND MOUNTS (DOMINUS).....  
HLNA0074 TIE ROD, STEERING SERVO (DOMINUS) .....

HLNA0075 TIE ROD SET, STEERING (DOMINUS, SC) .....

HLNA0076 SHOCK TOWER AND BODY MOUNT SET (DOMINUS, SC) .....

HLNA0077 TIRES, MOUNTED, SILVER WHEEL, PAIR (DOMINUS, SC).....  
HLNA0078 BUMPER SET, FRONT (DOMINUS, SC) .....

HLNA0079 SUSPENSION ARM MOUNTS, LOWER (DOMINUS).....  
HLNA0080 SUSPENSION ARMS, FRONT, UPPER (DOMINUS, SC) .....

HLNA0081 SUSPENSION ARMS, FRONT, LOWER (DOMINUS, SC) .....

HLNA0082 SUSPENSION ARMS, REAR (DOMINUS, SC) .....

HLNA0083 TIE ROD SET, REAR CAMBER (DOMINUS, SC) .....

HLNA0084 SHOCK SET (DOMINUS, SC) .....

HLNA0085 SHOCK SHAFT SET (DOMINUS, SC).....  
HLNA0086 SHOCK CAPS (DOMINUS) .....

HLNA0087 SHOCK CAP RINGS, ORANGE (DOMINUS) .....

HLNA0088 SPRING SET, BLACK, FRONT AND REAR (DOMINUS, SC).....  
HLNA0089 SHOCK PLASTIC REBUILD (DOMINUS) .....

HLNA0090 SHOCK BODIES (DOMINUS, SC) .....

HLNA0091 SHOCK SEAL REBUILD KIT (DOMINUS) .....

HLNA0092 DOG BONE SET, REAR (DOMINUS, SC) .....

HLNA0093 DOG BONE SET, FRONT (DOMINUS, SC) .....

HLNA0094 AXLE SET (DOMINUS) .....

HLNA0095 BUMPER KIT, REAR (DOMINUS, SC).....  
HLNA0096 MUD FLAPS (DOMINUS, SC).....  
HLNA0097 BODY, BLUE (DOMINUS, SC) .....

HLNA0098 BODY, RED (DOMINUS, SC) .....

HLNA0099 OUTDRIVE CUP, CENTER, SET (DOMINUS) .....

HLNA0100 PLANETARY GEAR SET, DIFFERENTIAL (DOMINUS) .....

HLNA0101 OUTDRIVE CUP SET, FRONT AND REAR (DOMINUS) .....

HLNA0102 INPUT SHAFT, FRONT, CENTER .....

HLNA0103 GEAR SET, DIFFERENTIAL (DOMINUS) .....

HLNA0104 DIFFERENTIAL CASE (DOMINUS) .....

HLNA0105 GEARBOX SET, FRONT AND REAR (DOMINUS) .....

HLNA0106 DIFFERENTIAL, COMPLETE, FRONT OR REAR (DOMINUS) .....



## SPARE PARTS LIST CONTINUED...

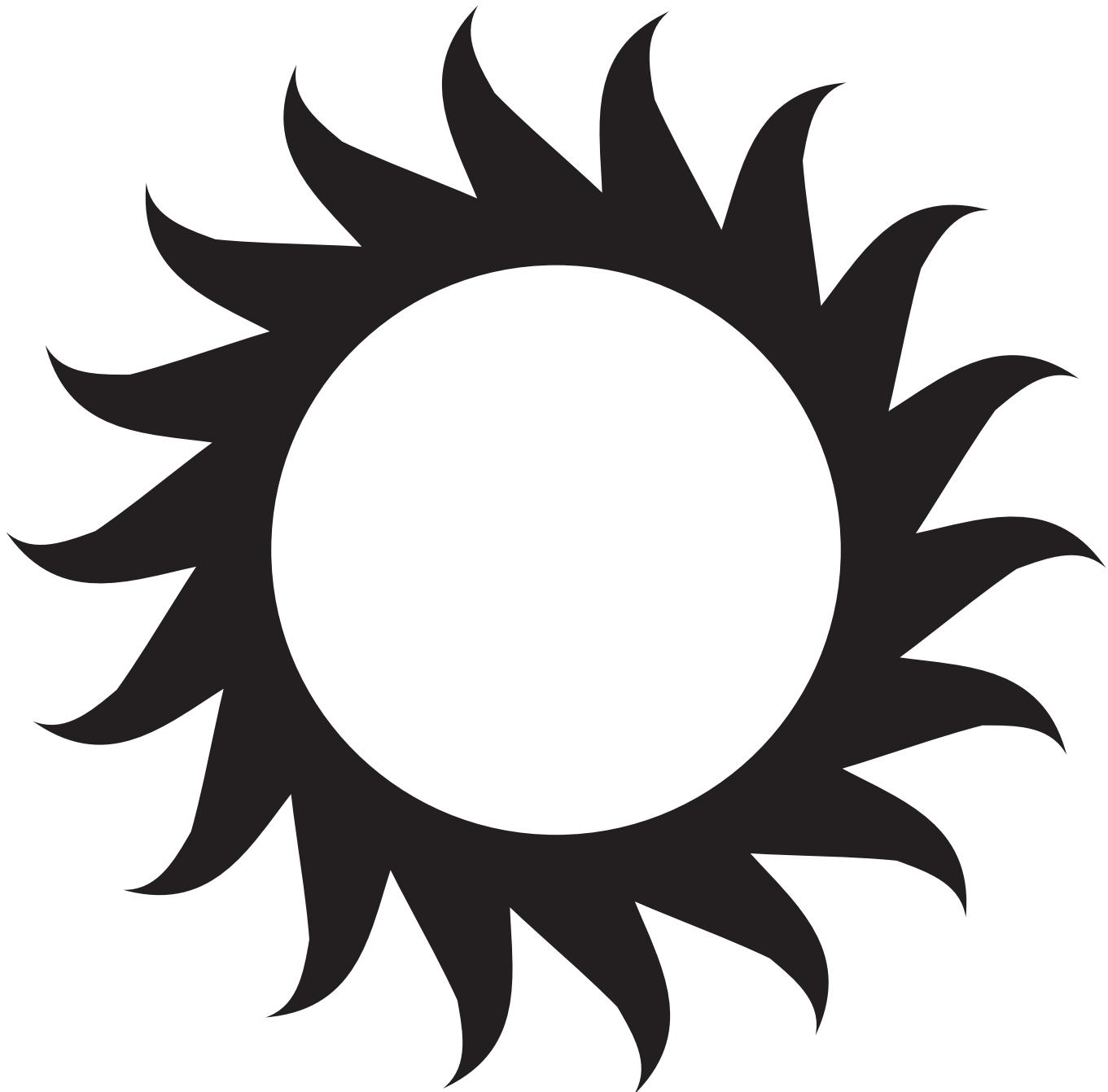
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HLNA0107 STEERING POSTS (DOMINUS).....
HLNA0108 BULKHEAD SET, FRONT AND REAR (DOMINUS).....
HLNA0109 SERVO MOUNTS (DOMINUS) .....
HLNA0110 THREADED NUTS, PILLOW BALL (DOMINUS) .....
HLNA0111 PILLOW BALL SET (DOMINUS).....
HLNA0112 HUB CARRIER SET, REAR (DOMINUS) .....
HLNA0113 HINGE PIN SET, THREADED, UPPER ARMS AND REAR OUTER (DOMINUS) .....
HLNA0114 WHEEL HEX SET (DOMINUS) .....
HLNA0115 E-CLIPS, 7MM.....
HLNA0116 E-CLIPS, 4MM.....
HLNA0117 E-CLIPS, 2.5MM.....
HLNA0118 BEARINGS, METAL SHIELD, 10X15X4MM .....
HLNA0119 BEARINGS, METAL SHIELD, 5X11X4MM .....
HLNA0120 BEARINGS, METAL SHIELD, 5X10X4MM .....
HLNA0121 SCREW KIT, FLAT HEAD PHILLIPS SCREWS (FHPS) (DOMINUS) .....
HLNA0122 FLAT HEAD PHILLIPS SCREWS (FHPS), M3X8MM .....
HLNA0123 FLAT HEAD PHILLIPS SCREWS (FHPS), M3X6MM .....
HLNA0124 FLAT HEAD PHILLIPS SCREWS (FHPS), M3X10MM .....
HLNA0125 FLAT HEAD PHILLIPS SCREWS (FHPS), M2X8MM .....
HLNA0126 SCREW KIT, BUTTON HEAD PHILLIPS SCREWS (BHPS) (DOMINUS) .....
HLNA0127 BUTTON HEAD PHILLIPS SCREWS (BHPS), M3X12MM .....
HLNA0128 BUTTON HEAD PHILLIPS SCREWS (BHPS), M3X8MM .....
HLNA0129 SET SCREWS (SHSS), M3X5MM .....
HLNA0130 SET SCREWS (SHSS), M3X3MM .....
HLNA0131 SET SCREWS (SHSS), M4X4MM .....
HLNA0132 SOLID PINS, 2X11MM.....
HLNA0133 SOLID PINS, 2X10MM.....
HLNA0134 SOLID PINS, 2X9MM.....
HLNA0135 WASHERS, 4X8X0.5MM.....
HLNA0136 SHIMS, 4X12X1MM .....
HLNA0137 LOCKNUTS, M3.....
HLNA0138 LOCKNUTS, FLANGED, M4.....
HLNA0139 BODY CLIPS, SMALL.....
HLNA0140 BODY CLIPS, LARGE .....
HLNA0141 FLAT HEAD PHILLIPS SCREWS (FHPS), M3X13MM .....
HLNA0142 FLAT HEAD PHILLIPS SCREWS (FHPS), M3X15MM .....
HLNA0143 BUTTON HEAD PHILLIPS SCREWS (BHPS), M3X8MM .....
HLNA0144 BUTTON HEAD PHILLIPS SCREWS (BHPS), M3X10MM .....
HLNA0145 BUTTON HEAD PHILLIPS SCREWS (BHPS), M3X12MM .....
HLNA0146 BUTTON HEAD PHILLIPS SCREWS (BHPS), M3X15MM .....
HLNA0147 BUTTON HEAD PHILLIPS SCREWS (BHPS), M3X18MM .....
HLNA0148 SOCKET HEAD CAP SCREWS (SHCS), M3X8MM .....
HLNA0149 MOTOR PLATE, ORANGE (DOMINUS).....
HLNA0150 HINGE PIN BRACE SET, ABCD (DOMINUS) .....
HLNA0151 HINGE PIN BRACE SET, AD (DOMINUS) .....
HLNA0152 GEAR COVER SET (DOMINUS, SC) .....
HLNA0153 TIRES, MOUNTED, BLACK WHEEL, PAIR (DOMINUS, SC) .....
HLNA0154 TIRES, AT2, MOUNTED, SILVER WHEEL, PAIR (DOMINUS, SC) .....
HLNA0155 TIRES, AT2, MOUNTED, BLACK WHEEL, PAIR (DOMINUS, SC) .....
HLNA0156 BODY, CLEAR (DOMINUS, SC) .....
HLNA0157 DOMINUS 10SC OWNER'S MANUAL AND EXPLODED VIEWS .....
HLNA0158 DOMINUS 10SC EXPLODED VIEW .....

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1/10th SCALE 4x4 SHORT  
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